PHD

Stimulus to innovation: the premium system as a method of encouraging agricultural improvement, 1754-1870

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STIMULUS TO INNOVATION:

The Premium System as a Method of Encouraging Agricultural Improvement, 1754-1870.

Submitted by

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ABSTRACT

The premium system, which became popular in the eighteenth century, was a method of stimulating innovation and invention by offering prizes and awards for new ideas, methods and machinery. It was practised mostly by the agricultural societies which were established in the zeal to promote agricultural improvement in the eighteenth and nineteenth centuries. One of the earliest of these was the Dublin Society, founded in 1731 among landowners to finance new manufactures and agricultural experiments and award premiums for new ideas and inventions. The Society of Arts, founded in 1754, was the first to practise the premium system in England. Others that soon followed included the Bath and West Society (1777), the Board of Agriculture (1793) and the Smithfield Club (1798). By the end of the nineteenth century, agricultural societies were established throughout the country. These societies essentially came about at a time when agriculture and industry were making remarkable advances. They played a vital role in the stimulation of innovation and invention and the diffusion of knowledge. Furthermore, these societies were often associations of major landowners in the country. Given the membership of these societies, one could say that they represented the agricultural vote of the country. They were instrumental in the agricultural changes taking place at a time which has come to be known as the Agricultural Revolution. This study reviews the development of the premium system and the part it played in the Agricultural Revolution. Chapters are devoted to its origins, development and its subsequent demise. Attention is also focused upon the wider impact and significance of some of the more prominent national and regional agricultural societies and some of the agricultural personalities involved with the societies. The concluding section analyzes and evaluates the success of the premium system and suggests that although it did lead to some new techniques and technologies, the overall impact of these on agricultural progress was not as great as contemporary literature would lead us to believe. Nonetheless, the agricultural societies and the premium system were significant channels for the communication of information during the Agricultural Revolution.

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LIST OF ABBREVIATIONS

Agric. Econ.	Agricultural Economist
Agric. Gazette	Agricutural Gazette
Agric. Hist.	Agricultural History
Agric. Hist. Rev.	Agricultural History Review
Ann. Agric.	Annals of Agriculture
Ann. Sc.	Annals of Science
BJHS	British Journal of the History of Science
Br. F.M.	British Farmers' Magazine
B.R.O.	Bath Record Office
Bulln Hist. Med.	Bulletin of the History of Medicine
B.W.	Royal Bath & West of England Society
Comm. Bd Agric.	Communications to the Board of Agriculture
D.N.B.	Dictionary of National Biography
Ec. Hist. Rev.	Economic History Review
18th Cent. Stud.	Eighteenth Century Studies
Eng. Hist. Rev.	English Historical Review
Explns Ec. Hist.	Exploration in Economic History
Explns Entre. Hist.	Explorations in Entrepreneural History
F.M.	The Farmer's Magazine
Gent. Mag.	The Gentleman's Magazine
Hist. J.	Historical Journal
Hist. Sc.	History of Science
J. Agric. Econ.	Journal of Agricultural Economics
J.B.W.E.S.	Journal of the Bath & West of England Society
J. Br. Stud.	Journal of British Studies
J. Econ. Hist.	Journal of Economic History
J. Hist. Ideas	Journal of the History of Ideas
J. H. of C.	Journals of the House of Commons
J. Intdisc. Hist.	Journal of Interdisciplinary History
J. Ld Agents Soc.	Journal of the Land Agents' Society

J. Min. Agric.	Journal of the Ministry of Agriculture
J. Mod. Hist.	Journal of Modern History
J. Patent Off. Soc.	Journal of the Patent Office Society
J.R.A.S.E.	Journal of the Royal Agricultural Society of England
J.R.S.A.	Journal of the Royal Society of Arts
John Ryl.	John Rylands Library, Manchester
Loc. Histn.	Local Historian
Min.	Minutes
M.L.E.	Mark Lane Express
Parl. Papers	Parliamentary Papers
P.R.O.	Public Record Office
Proc. Br. Acad.	Proceedings of the British Academy
Qtrly J. Agric.	Quarterly Journal of Agriculture
Qtrly Rev.	Quarterly Review
RAS	Royal Agricultural Society of England
R.A.S.E. Rev.	Royal Agricultural Society of England Review
Refresh	Recent Findings of Research in Economic & Social History
Rep. Br. Assoc. Adv. Sc.	Reports of the British Association for the Advancement of Science
Rev. Eng. Stud.	Review of English Studies
R. Soc.	Royal Society
R.S.A.	Royal Society of Arts
Rural Soc.	Rural Sociology
Stud. Volt. 18th C.	Studies on Voltaire and the Eighteenth Century
Suff. Rev.	Suffolk Review
Techn. Cult.	Technology & Culture
Tools Till.	Tools & Tillage
Trans. Inst. Br. Geogr.	Transactions of the Institute of British Geographers
Trans R.S.A.	Transactions of the Royal Society of Arts
T.Y.A.S.	Transactions of the Yorskshire Agricultural Society
V.C.H.	Victoria County History

NOTES ON STYLE

Principal primary sources are cited in full in the footnotes. Citations of secondary sources are made in full on first mention and then made by author and short title thereafter. The place of publication is London unless otherwise stated. Cross references in the footnotes cite chapter number in capital letters followed by the section number bracketed, for example, TWO (2.1) refers to chapter 2, section 2.1.

Spellings in quotations have been retained in their original form. In some cases, the punctuation of quotations from unpublished sources have been changed in order to clarify the meaning. Initial letters, where necessary, have been altered to be consistent with the style of the text, but in no case has the order of words been altered, or italics introduced, without this being noted.

In the tables, numbers have been calculated to one decimal place; in the text, decimals have been rounded to the nearest whole number.

Monetary terms quoted in the text refer to the old English pound (£), the breakdown of which is as follows:

£1	=	20*s.*
1 guinea	=	£1. 1*s.*
1*s.*	=	12*d.*

ERRATA

Page 108 There is no page 108. The text runs from page 107 to page 109.

1. INTRODUCTION

Invention and innovation have always been key concepts in the history of technology. They determine the time and place of technological development, and thus affect the pattern of political, social and industrial history. It is therefore a matter of great importance to understand the generation of inventions, and to be able to encourage the process whereby promising inventions are transformed into successful systems and hardware. Of no industry is this more important than agriculture, the oldest and most basic of all human enterprises. In most areas of industry, the development of patent law had ensured that inventors were given some reward. But in agriculture there were problems. The nature of agricultural innovation generally made it unsuitable for monopoly-commercial exploitation. Innovations such as new methods of cropping or stock-rearing were easily copied while botanical innovations such as the use of new crops could not be easily protected by patents as seeds were widely obtainable elsewhere. Agricultural machinery might have been more amenable to patenting but innovations in this area usually involved improvements on existing designs. This meant that they often did not incorporate sufficient novel features to make them 'patentable'. Thus, an alternative reward system was introduced: the premium system.

The premium system was a method of fostering invention and innovation by offering prizes and awards for new ideas, methods and machinery. It was utilized mostly by the agricultural societies that were established for the purpose of stimulating agricultural innovation in the eighteenth and nineteenth centuries. In return for a one-off payment of a monetary or honorary premium, or reward, an improver or inventor agreed to share their ideas with the general public. The agricultural societies would then disseminate these progressive methods among the farming community by publication and exhibition.

It was a central part of the work of the Society of Arts during the second half of the eighteenth century and this model was followed by other institutions such as the Bath and West Society and the Royal Agricultural Society. The rationale of the system according to its founder, William Shipley, was that 'profit and honour are two sharp spurs, which quicken invention and animate application'.[1] It can be said that the premium system was one of the earliest reward systems in agriculture and played a role in the changes taking place at a time which has come to be known as the Agricultural Revolution. The history of the premium system, therefore, is closely associated with the Agricultural Revolution. But surprisingly, its foundation, its subsequent history and its importance in the encouragement of agricultural improvement have long been neglected. Scholarly studies have dealt with the subject only in a piecemeal way, and these are usually confined to some general remarks. The objective of the present study is to redress this balance and give a more comprehensive analysis of the history of the premium system and its place in the Agricultural Revolution.

1.1 Research Objectives

The primary aim of the present study is to assess the impact of the premium system on agricultural innovation. Agricultural innovation is widely defined to embrace all new, improved or modified components of agriculture, including tools, machinery, improved crops or stock, cultivation techniques, fertilizers, land improvement, and abstract knowledge and ideas.[2] Such a broad definition of innovation thus includes within it the processes of 'invention' and 'diffusion'. An *invention* is a new development, or combination, of some older idea or ideas. It is an idea, practice, or object that is new and novel in human knowledge and experience.[3] An invention becomes an *innovation* when it is adopted. Thus, the process of innovation also

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[1] W. Shipley, *Proposal For raising by subscription a fund to be distributed in premiums for the promoting of improvements in the liberal arts and sciences, manufactures, &c,* quoted in T. Mortimer, *A Concise Account of the Rise, Progress and present state of the Society for the Encouragement of Arts, Manufactures, and Commerce* (1763), pp. 9.

[2] G.E. Jones, 'The Adoption and Diffusion of Agricultural Practices' *World Economics and Rural Sociology Abstracts* 9 (1967), p. 4.

[3] H.A. Presser, 'Measuring Innovativeness rather than Adoption', *Rural Soc.* 34 (1969) pp. 510-1.

encompasses the processes of diffusion and adoption. *Diffusion* is the process by which an innovation is communicated through certain channels over time among members of a social system. [See *figure 1.1*]

	Time 1	Time 2	Time 3	Time 4	Time 5
Place 1	Invention	→ Innovation	→ Practice ↓ Diffusion	General → stock of knowledge	Decline → or further improvement
Place 2			↓ Innovation	→ Practice ↓ Diffusion	General → stock of knowledge
Place 3				↓ Innovation	→ Practice ↓ Diffusion
Place 4					↓ Innovation

Figure 1.1 : The innovation-diffusion process.
An *invention* has a point of origin in place and time. It becomes an *innovation* when it is adopted. In time, as knowledge and use of the innovation diffuse to other people in the surrounding area, the idea ceases to be an innovation in that area. It becomes a *practice*, then a part of the *general stock of taken-for-granted knowledge*. This stock of knowledge may serve as a platform for *further improvement* or the practice may *decline*. While the new idea becomes established as a practice in one area, it may be diffused to another area where it would then be considered an innovation. An idea is an innovation at different places at different times.

A question which immediately arises is why should the premium system be studied? The premium system stands in a range of methods of stimulating and rewarding innovation of which the patent system is another. It is a mode of encouraging invention and the diffusion of innovation. In the eighteenth and nineteenth centuries, the premium system was seen not only as a plausible means of exciting a spirit of

enquiry but also as a way of encouraging the widespread adoption of the new agricultural techniques.

The significance of studying the premium system is three-fold: Firstly, an examination of the changes in the subject of premiums offered and awarded should reveal the changing priorities of agricultural systems. Secondly, the use of premiums as an agent in the innovation process demonstrates how agricultural improvement was encouraged and how new agricultural techniques and technologies were diffused. Thirdly, the operation of the premium system and its utilitarian approach to the fruits of invention raises certain implications about innovative activity during the period under study. These involve issues of intellectual property and the monopoly principle which aimed to protect the rights of the individual inventor.

The evolution and development of the premium system took place alongside the existence of the older, more established patent system. Throughout the period under consideration, premiums and patents vied for the inventor's attention. Both functioned on the same principle of rewarding inventors for making their inventions available to the public. However, the former operated on the idea of free communication while the latter was concerned with the idea of monopoly. The premium system's emphasis on improvement and diffusion was alien to the patent system. The presence of both, nonetheless, illustrate the ways in which people were thinking about invention and inventive activity in the eighteenth and nineteenth centuries. Indeed, their very existence underlines the belief that the twin activities of invention and diffusion can be fostered.

In detail, this study is aimed at developing a better understanding of the premium system and the agricultural societies. It will examine the general development of the premium system - its origins, development and its subsequent decline; analyze and evaluate its success and assess its effectiveness as a method of stimulating innovation and invention. Consideration will also be given to issues such as the exchange and diffusion of agricultural knowledge; the nature of agricultural innovation, particularly if it can be stimulated; and to patents as an alternative reward system to premiums.

This thesis also considers the efforts of the agricultural societies to stimulate agricultural innovation specifically through the offer and award of premiums. It will review the societies within the context of the development of 'institutional means' for the promotion of agricultural improvement. In an age where there was growing scope for individual initiative and where ideas of *laissez-faire* were increasingly coming into play, the encouragement of agricultural improvement was taken up by these private, voluntary institutions. This meant that the improvement of all aspects of agricultural practice from new crops to cropping techniques, to livestock and agricultural implements and machinery was left in the hands of the agricultural societies.

To begin with, societies were essentially 'gentlemen's societies'. While the members of these societies often had a vested interest in the land, they were not necessarily practising farmers. They were more likely to be professional men or gentlemen farmers from the upper echelons of society rather than ordinary working farmers. This is significant when one considers the impact of this 'gentlemanly ethic' and class attitudes on business, profit, trade, innovation and practical farming. That this motley group of individuals should take it upon themselves to raise the level of agricultural practice and increase agricultural output in the country is itself a subject worthy of scholarly consideration. It would certainly be interesting to uncover their motives for improvement and study the results they obtained.

It should be said that the societies flourished with very modest material resources, indeed, being amateur and self-financing. The small cash premiums or medals they offered as inducements to inventors cannot to be seen as 'research and development' costs in the modern sense of capital investment in innovation. The fact that endeavour was stimulated by the chance of winning a medal offered by a private society or appearing in its transactions, says much for the prestige attached to science and to the quest for 'improvement' in practical matters.

On an institutional level, the agricultural societies are interesting as proto-type organizations for agricultural research and development. They were the earliest associations for experiment coupled with systematic observation and recording of results. Even though their activities were characterized by a spirit of enthusiastic amateurism, the support these institutions engendered can also be seen in stark contrast to the general distrust of professional firms at the time. The increase in the number of agricultural societies throughout the eighteenth and nineteenth centuries might even have been an indirect result of the low status and bad reputations of businesses. By the middle of the nineteenth century however, the activities of the agricultural societies were to undergo a transformation. As professional firms developed and gained a surer footing in the public's perceptions and research stations such as Rothamsted were established, the agricultural societies devoted their attention to organizing agricultural shows and left the research and development aspects to these organizations. Nonetheless, the agricultural societies were important forerunners to these later institutions.

Socially, the societies mirrored the structure of rural society and the squire's duty to educate his tenant farmers. Because these societies were often associations of major landowners in the country, one could say that they represented the agricultural vote of the country. Thus, a study of the premium system will also reveal what kind of activities were considered important by one of the protagonists of agricultural change; the extent and limitations of their success; and their contribution to agricultural progress during the Agricultural Revolution.

1.2 Context of the Study

A study of the premium system and the agricultural societies has to be understood within its historical framework. The eighteenth century has always been known as an age of remarkable expansion and improvement in agriculture. The roots of this period can be found in what Hobsbawm has called the 'dual revolution', that is, the Industrial and the French.[4] The former was generating changes in society while the latter, by its violent social upheaval in France, produced a strong reaction against any such change

[4] E.J. Hobsbawm, *Industry & Empire* (1968), p. 18.

in Britain. However, for a small segment of society, the dual revolution presented possibilities that tended to converge rather than diverge. A small group of 'improving landlords' believed that the application of the entrepreneurial spirit of the Industrial Revolution to agriculture would not only improve agricultural production but also alleviate rural poverty and thus prevent the threat of social revolution. Agricultural changes were seen as part of the larger process of industrialization and there was in fact no sharp dichotomy between agricultural and non-agricultural activity at this time.[5]

In many ways, agricultural improvement was the rural counterpart of the transition to industrialism. Both the Industrial and Agricultural Revolutions also had their reciprocal influences on each other. The development of the factory system was at once drawing the agricultural population into the towns, and was depriving them of their ancient means of livelihood by the destruction of domestic industry. The growth of the urban population demanded more abundant food supplies and thus, necessitated improved systems of cultivation. Robert Dossie pointed out:

> There are reasons for our earnest attention to [improvement in agriculture], peculiar to the present times, which cannot be too strongly and universally inculcated. The high price of all kinds of provisions, and the decline of our manufactures, are become affecting objects of the most serious consideration: as not only the welfare of numbers of individuals, but the flourishing condition of the state, and perhaps even our very existence as a free people, depend in some manner on them.[6]

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[5] While industrially oriented landowners were the exception rather than the rule, it has been suggested that the major part played by the great landowners in industrial activity has been generally overlooked. While this issue will not be pursued in this thesis, it is interesting to note that nearly a quarter of the canals built between 1755-1815 were financed by the landowners. M. Berman, *Social Change and Scientific Organization: The Royal Institution, 1799-1844* (1978), p. 37.

[6] *Memoirs of Agriculture*, 1 (1768) p. ix.

Contemporaries certainly gave agricultural improvement at least as high a priority as industrial advance. Agricultural improvement also had a more general appeal to the upper and middle classes of English society than any other branch of production, if only because larger and more influential social groups were concerned with the land. Towards the end of the century, this interest was further stimulated by the personal interest of the King (George III) in farming, which naturally made it a fashionable pursuit. Arthur Young writes of this period, 'the farming tribe is now made up of all ranks from a Duke to an apprentice.[7]

As a consequence of industrialization, the share of agriculture in the Gross National Product fell from some 45% in 1750 to 6% in 1911 and the proportion of the country's labour force employed in agriculture shrank from around 55% in 1750 to 8% in 1911. At the same time, agricultural output experienced unprecedented growth. The population of 1850, three times that of 1750, was still largely fed by home production.[8] The improvements in agriculture in the century after 1750 were due to changes in the technology of farming; changes in farming systems; and changes in the institutional arrangements under which farming was carried out. Changes in technology were directed towards increasing the productivity of the land through cropping innovations, and increasing the productivity of labour by the introduction of machinery. The major cropping innovations were two fodder crops, turnips and clover. Turnips acted as a cleaning crop by smothering weeds, and clover had the valuable property of fixing atmospheric nitrogen into the soil. Both crops also provided winter fodder for animals. This system was cumulative in effect because fodder crops fed to the livestock produced large supplies of previously scarce animal manure. This manure was also richer in nature because the animals were better fed. As a consequence, there were better yields. Other new crops included potatoes, cultivated in increasing quantities from the mid-eighteenth century; swedes, which supplemented turnips; and grass substitutes such as sainfoin, lucerne and ryegrass. From the late eighteenth century, oil cake began to be used as fodder and some novel

[7]Quoted in E.J. Russell, *A History of Agricultural Science in Great Britain 1620-1954* (1966) p 53.

[8] M. Overton, 'Agriculture' in J. Langton and R.J. Morris, *Atlas of Industrializing Britain, 1780-1914* (1986), p. 34.

fertilizers including guano and coprolite were spread on the land. The import of these feedstuffs and fertilizers grew rapidly from the 1830s.

The movement toward change was further intensified by improvements in agricultural implements and the invention of new agricultural machinery. The widespread introduction of machinery dates from the 1830s and 1840s. The 'new husbandry' was labour-intensive and farmers looked for ways of reducing labour costs. The main savings were made in harvesting and threshing grain. The first major change in harvesting was the switch from reaping grain with a sickle to cutting with a scythe, followed by the introduction of the reaper and the reaper-binder. The number of worker-days needed to harvest an acre of wheat fell from 4.8 with a sickle to 2.4 with a scythe and 0.5 with a reaper-binder.[9] Threshing machines were introduced early in the nineteenth century to replace the laborious task of threshing with a flail. They were a permanent part of the rural landscape by the 1850s when they were increasingly powered by steam.[10] Five man days were needed to thresh an acre of wheat with the flail, but only 0.8 using a steam-powered thresher.[11] Other machines such as horse-hoes, turnip cutters, winnowing machines, cake crushers and bean mills were also introduced. Constant improvements were also made to existing implements like ploughs.

The most significant change in farming systems was the Norfolk four-course system, characterized by the disappearance of the fallow year and by a new emphasis on fodder crops. Established in Norfolk towards the end of the seventeenth century, this four-course rotation system became fairly general by 1800 and became the model of ideal arable farming practice on most English farms for the best part of the following century. In the Norfolk four-course system, turnips and clover were often cultivated

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[9] *Ibid.*, p. 36.

[10] S. MacDonald, 'The Progress of the Early Threshing Machine' *Ag. Hist. Rev.* **23** (1975), pp. 63-77. During periods when wages fell, threshing machines were unpopular with both farmers and labourers and were often the object of attack during periods of unrest such as the Swing disturbances of 1830-1. As a consequence of these riots, the 1830s and 1840s saw a definite hiatus in the adoption of machinery in Lowland Britain.

[11] Overton, 'Agriculture', p. 36.

in rotation with other crops such as wheat and barley. Areas with light soils, such as Norfolk, were allegedly the most suitable for growing turnips. Rotation was rarely practised in this pure form as not all environments were appropriate for it. Even where soils and climates were suitable farmers usually wanted to grow other crops such as oats to feed their horses.[12] Nonetheless, most areas practised some variant of the Norfolk system.

However, in order to adopt the new crop rotation system, it was first necessary to alter the existing institutional arrangement under which land was held: the open field system. Up to the end of the sixteenth century, the greater part of England still used the open-field system of the Middle Ages. 'Open' field meant that there were no fences or barriers dividing the strips cultivated by individual farmers. The working farmers occupied long, narrow strips of land scattered across a series of large open fields. Usually, a farmer held a scatter of strips, each strip of land being about an acre in size. Village rules and regulations selected the crops cultivated, how many animals a farmer kept, and when ploughing and harvesting took place. Because of this emphasis on communal agriculture, the profit motive was muted and the concept of private property, as we know it today, was quite different.

Many features of this open-field system were changed by the process of enclosure. Enclosure involved the re-arrangement of the scattered strips of land of the open-field system into smaller fields surrounded by permanent boundaries. Enclosed fields were held in individual occupation and subject to no common rights of common grazing. Under the open field system, it was virtually impossible to grow fodder crops because these fields were opened to grazing by the livestock of the whole community. On enclosed land, however, a farmer was free to determine the nature and management of his farm and benefit from his own efforts. Enclosure was also considered a

[12] Dr Johnson defined oats as 'a grain which in England is generally given to horses, but in Scotland supports the people.' However, this was not an entirely accurate description as it formed a major part of the diet in many parts of northwest England and Wales. Oats, tolerant of a wide variety of soil and climatic conditions, were widely grown as a fodder crop, especially after the profitability of wheat and barley fell after 1871. *Ibid.*, p. 40.

prerequisite for selective animal breeding in that it prevented the promiscuous mingling of livestock on the commons. Thus, enclosure put an effective end to co-operative husbandry and firmly established the concepts of individual initiative and individual landholding. Much enclosure took place by 'agreement', whereby villages could agree amongst themselves to enclose part of their lands, or agree to their landlord doing so. However, from the 1750s onwards, enclosure of open-fields and of waste areas in England and Wales took place through the mechanism of a private Act of Parliament. [See *table 1.1*]

Year	Number of Acts	Common Fields & Some Waste Land (Acres)	Number of Acts	Waste Land Only (Acres)
1700-1760	152	237,845	56	74,518
1761-1800	1,479	2,428,721	521	752,150
1801-1844	1,075	1,610,302	808	939,043

Table 1.1 : Number of Enclosures authorized by Private Acts of Parliament
Source : G.E. Fussell, 'The Agricultural Revolution, 1600-1850' in M. Kranzberg and C.W. Pursell, *Technology in Western Civilization, Vol. 1* (Wisconsin: 1967).

The impetus to enclose was provided by the increased demand for food from the growing population, especially in the urban centres. The rise of industry opened new opportunities for the big landowners who were anxious to convert to enclosure to maximize their profits. To an extent, one could also say that the pressure on farmers for increased production was much heavier than ever before. Enclosure seemed a more efficient and productive system of husbandry than the open field system. It was widely accepted by agriculturists from the sixteenth century onwards that it was only with fenced fields, free from communal grazing rights, that farmers could optimize the productivity of the soil. The introduction and implementation of the new fodder crops was dependant upon changes in property rights. 'The open-field system had to go whatever injustices its abolition might involve.'[13] Arthur Young, who began his

[13] G.E. and K.R. Fussell, *The English Countryman: His life and work from Tudor times to the Victorian age* (1985), p. 91. Before enclosure, some inhabitants of a village would have common rights over certain areas even though they might not own any land. The social consequences of

celebrated tours in 1767, never ceased calling for its abolition. Consequently, there was a rapid acceleration of the enclosure movement in England and by 1850, most of the arable land was enclosed.[14] [See *figure 1.2*]

The short-term stimulus for the transformation of agricultural practice was greater profit and the long-term consequences were increases in agricultural output. Overton claims that between 1840 and 1900, output per worker in English agriculture increased by over 70%.[15] By the mid-nineteenth century, a new pattern of social relations had emerged in the countryside. Most of the land of England was owned by landlords who leased land to tenant farmers who in turn hired farm labourers. Hardly any subsistence farmers remained and the proportion of farmers who were owner-occupiers has been placed at below 15%.

In summary, conventional academic opinion conceives first, the improvements in output in terms of changes in the technology of farming (the introduction of new crops such as turnips and clover, and more efficient implements); second, changes in systems of farming (more effective and intensive cultivation; achievement of better balance between arable land and pasture; use of better rotations with roots and legumes), and third, changes in the institutional arrangements under which farming was carried out (enclosure of open fields and commons; creation of more convenient larger farms). However, it is also generally recognized that none of these 'changes' were 'new'. For example, turnips were first grown as animal fodder in the 1630s, and clover cultivation dates from the early seventeenth century. Although data on the chronology and location of their introduction is patchy, we know that by the 1740s, about half the farms in Norfolk and Suffolk were growing turnips and about a quarter had clover on their farms, although it was not until after the mid-eighteenth century

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enclosure are discussed in M.E. Turner, 'Parliamentary Enclosure: Gains and Costs' in A. Digby and C. Feinstein (Ed.s), *New Directions in Economic and Social History* (1989), pp. 22-35.

[14] A similar process of enclosure took place in Scotland during the same period with a series of Parliamentary Acts paving the way for enclosure to take place from the 1690s onwards.

[15] Overton, 'Agriculture', p. 36.

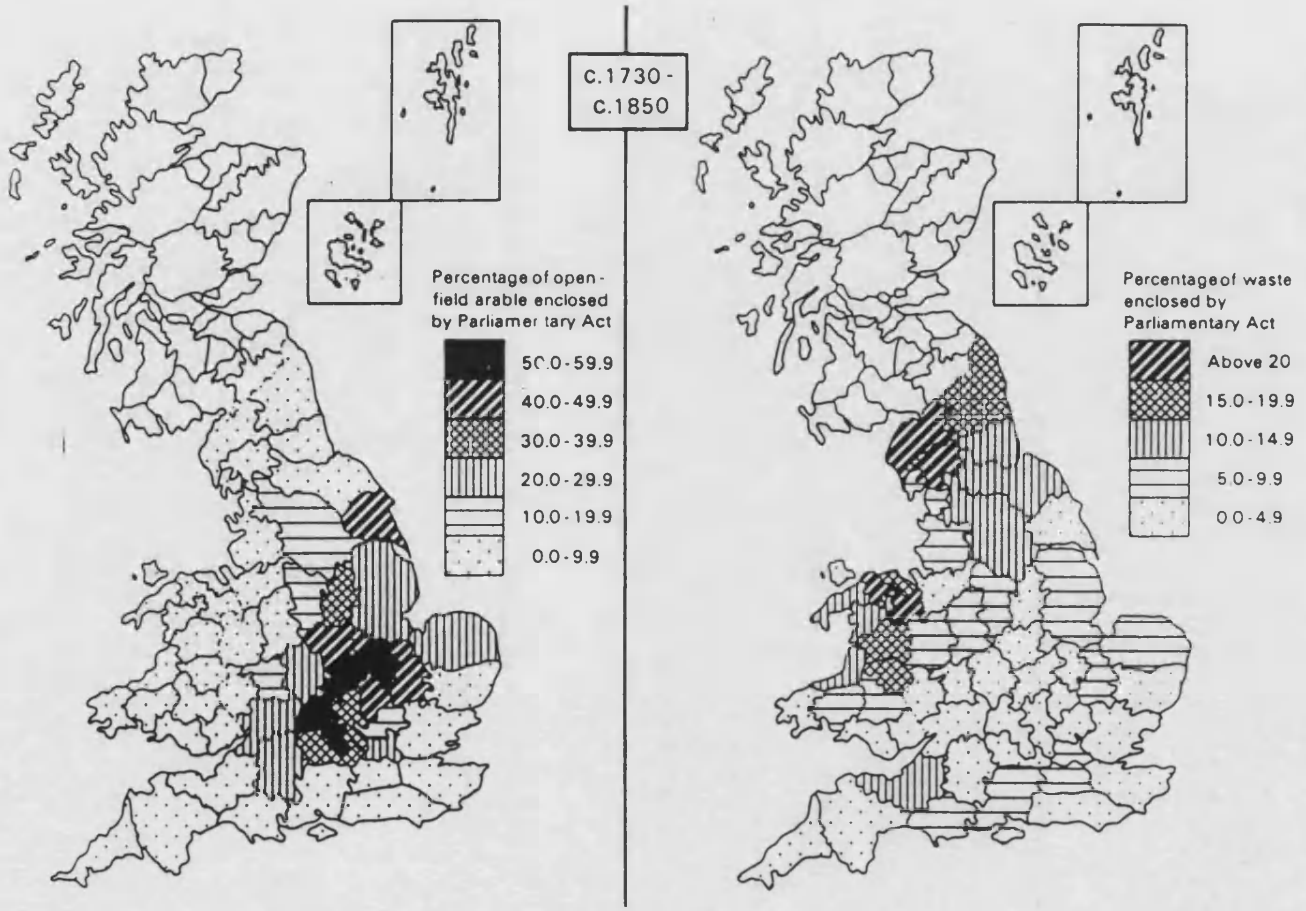

Figure 1.3 : Percentage of Open-field Arable and Waste Land Enclosed by Parliamentary Act, *c.*1730-*c.*1850.
Source : J. Langton and R.J. Morris (Eds.), *Atlas of Industrializing Britain, 1780-1914* (1986).

that these crops were having much effect on cereal yields.[16] Furthermore, the enclosure of open fields had started from the sixteenth century onwards but did not really take off till after the mid-eighteenth century. Thus, the dramatic increase in productivity and output during the Agricultural Revolution was not to any significant extent the result of any new agricultural practices or mechanical innovations: rather, it can be characterized as an acceleration in the departure from traditional methods, a process which had started in the Middle Ages.

The timing of such an acceleration in adopting improvements was to a large extent due to the 'improving spirit' of the times. The eighteenth century was a period when the idea of progress burst forth with new vigour and in new forms in England. New ideas were in the air and the commencement of change was discernible from as early as the beginning of the eighteenth century. This new spirit of improvement was nurtured in the philosophy of the Enlightenment, the seeds of which were planted in the seventeenth century with the foundation of the Royal Society in the late 1660s as a fulfillment of Bacon's dream of an 'invisible college' and come into fruition by the eighteenth century.[17]

Henry Home observed in the eighteenth century, 'Our gentlemen who live in the country have become active and industrious. They embellish their fields, improve their lands, and give bread to thousands.' He contrasted this with those pursuits which formerly occupied the country gentlemen, 'His train of ideas were confined to dogs, horses, hares, foxes; not a rational idea entered the train, not a spark of patriotism, nothing done for the public.'[18]

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[16] M. Overton, 'The Diffusion of Agricultural Innovation in Early Modern England: turnips and clover in Norfolk and Suffolk, 1580-1740' *Trans. Inst. Br. Geogr.* **10** (1985) 205-11.

[17] For the Enlightenment and founding of the Royal Society, see C. Webster, *The Great Instauration.*

[18] H. Home, *The Gentleman Farmer* (1776). Quoted in T.H. Middleton, 'Early Associations for Promoting Agriculture and Improving the Improver' *Rep. Br. Assoc. Adv. Sc.* (1912), p. 728.

One of the best-known improving landlords was Thomas Coke of Holkham who took personal pride in agricultural innovation, improved stock-breeding and rising yields. Books of instruction were issued to tenants and they were given specific crop rotations to follow. Farm leases on the Holkham estate contained covenants enjoining progressive practices on the tenants, and Coke's methods won lavish praise from Arthur Young in the *Annals of Agriculture* as early as 1784. At the end of the eighteenth century, Coke also began his renowned annual sheep-shearings, 'Coke's Clippings'. These developed from mere conferences between himself and his tenants into a significant gathering of agriculturists from all over the country at which hundreds of guests were entertained. At these 'Clippings', the best breeds of sheep and oxen, the finest seeds used in laying down meadows and new agricultural implements were placed on view.

Coke was not alone in his enthusiasm. Indeed, throughout the eighteenth century and especially in the final quarter of the century, when the growing population was increasing the demand for food, the reformist spirit became widespread among a small group of landlords.[19] For example, the third Earl of Egremont converted 800 acres of parkland at Petworth into a model farm and held his cattle show.

There are several reasons for this growing spirit of improvement. Firstly, there was a perceptible change taking place in the English intellect. From as early as 1724, Daniel Defoe noted a love for gardening and rural pursuits when he mentions in his *Tour Through the Whole Island of Great Britain*, the English gentleman's 'strange passion for fine gardening'.[20] The French traveller, Le Blanc observes that 'the English love planting more than we [the French] do.'[21] Macfarlane dates this fondness for

[19] It should be emphasized that during the eighteenth century, progressive farming was not a serious concern of most of the upper class, Berman, *Social change*, p. 2.

[20] D. Defoe, *Tour Through the Whole Island of Great Britain* (Middlesex: 1986), p. 174. First published, 1724-6.

[21] The Abbe Le Blanc, *Letter on the English and French Nations* (1741), quoted in A.J. Bourde, *The Influence of England on the French Agronomes, 1750-1789* (Cambridge: 1953), p. 19.

gardening to the sixteenth century.[22] William Lecky records the English fondness for natural scenery:

> ...the close contact between town and country life, the revelation to a cultivated and intellectual town-world of the majestic scenes of natural beauty and intellectual activity into country life, contributed largely to a memorable change which was passing over the English intellect.[23]

Operating by itself, the love of rural pursuits motivated agricultural improvement. Gentlemen tending their gardens and collecting new plants might make important discoveries as many important field crops began in gardens.[24] Operating as part of a collective, for example, in an agricultural society, such discoveries exchanged and diffused could have a dramatic impact upon agricultural practice throughout the country.

Secondly, agricultural improvement was also a method of expressing charitable and patriotic feelings. The landed class saw their patriotic duty as service for the common good.[25] Charitable concerns were one of the factors which led to a wave of economic projects that sought to employ the poor in the sixteenth and seventeenth centuries. Some gentlemen supported agricultural improvement because they saw in it the possibility of providing work and food for the poor and thus alleviating not only poverty and hunger but also the threat of social revolution. The French Revolution of 1789 had generated an interest in educating the poor and instilling appropriate political attitudes in the poor. As a consequence, there was a host of projects popular at this time as the landed class tried 'by charitable and educational organizations, to instill a sense of order and a respect for property into the working class.'[26] This

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[22] A. Macfarlane, *The Culture of Capitalism* (Oxford: 1987), p. 87.

[23] W.E.H. Lecky, *History of England in the eighteenth century, Vol. 6* (1887), p. 179.

[24] M. Thick concludes that gardening and horticulture 'stimulated agricultural progress', 'Market Gardening in England and Wales' in J. Thirsk (Ed.), *The Agrarian History of England and Wales, 1640-1750* (Cambridge: 1985), p. 532.

[25] J. Thirsk, *Economic Policy and Projects* (Oxford: 1978), pp. 18-20.

[26] B. Rodgers, *Cloak of Charity* (1949), p. 12.

aristocratic obligation to the problem of poverty was still evident in Victorian times: 'Most of those who favoured [Victorian model] farms did so for much the same reason that they sponsored Sunday Schools - a feeling of responsibility incumbent upon those of high social standing.'[27]

Thirdly, social prestige was also very important to the landed class and agricultural improvement on behalf of the public good was one way to receive such prestige. In the late eighteenth century, this was largely influenced by the 'fashion' for agricultural pursuits and none pursued agricultural improvement more relentlessly than the King himself. King George III was a practical improving farmer and he never travelled anywhere without the latest volume of Arthur Young's *Annals of Agriculture* in his coach. In fact, he admired this periodical so much that he contributed to it under the pseudonym, 'Ralph Robinson', the name of one of his shepherds at Windsor. This King loved to be called 'Farmer George'.[28] During his reign (1760-1820), 75% of all the enclosure acts ever passed by Parliament were proposed, enacted and then effected. The King's personal interest in farming naturally made it a fashionable pursuit. Every self-respecting member of the landed class followed the King's example and agricultural improvement became a fashion, a craze among the landed class. Sheep shearings and agricultural exhibitions were social occasions as well as opportunities for learning about new improvements. Thus, the landowning interest in agricultural improvement and progress was also a vehicle for even greater status and prestige.[29]

Rich merchants and industrialists also often attempted to assimilate themselves into the landed class by purchasing large estates and becoming improving landlords themselves. The textile entrepreneur, Samuel Oldknow, who became president of the Derbyshire Agricultural Society, was commended by the *Gentleman's Magazine* for

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[27] B.A. Holderness, 'The Victorian Farmer' in G.E. Mingay (Ed.) *The Victorian Countryside, Vol. I* (1981), pp. 227-244.

[28] Fussell and Fussell, *English countryman*, pp. 90-91.

[29] *Ibid.*, p. 35.

being a patriot who converted 'one blade of grass into two.'[30] Ironmaster John Wilkinson's efforts at reclamation lost money, but won him Sir John Sinclair's praise of being 'among the best friends to the agricultural interests of the country.'[31] As Dodd observes, 'the spirited proprietor became the social lion, and all the best society talked crops.'[32]

Beyond the charitable and fashionable aspects of agricultural improvement, landlords were also interested in the lucrative side of it. The impetus towards agricultural improvement was also economic in character. During the second half of the eighteenth century, the population began to increase rapidly and it was then that the agriculturists were called upon to produce more food. The growth of the population and the growth of urban centres in particular held out new opportunities for the landowners. Opportunities for commercial farming increased with the rising demands of townsfolk for milk, dairy products, pork, poultry, vegetables and fruits. For example, the area in and around London had the largest concentration of population and industry in the country. London's demand extended to surrounding areas as well as Norfolk, Wiltshire and even as far as Cheshire, which had good sea, river and land communications to the capital. Quite naturally this made the landowners open to any ways in which they might increase their profits.

Contemporary writers such as Adam Dickson and Thorold Rogers observed that the rise of the mercantile class also led to the development of a commercial spirit among the landowners of the eighteenth century.[33] According to G.E. Mingay, 'some of the more ambitious landlords were willing to consider any project which offered prospect of profit.'[34] 'Business-like domestic farming became a reasonable economic proposition...The sun shone for the landlord during this time far more brightly than it

[30] Quoted by A. Hulme, 'High Farming at Mellor' in G. Unwin (Ed.), *Samuel Oldknow and the Arkwrights* (1924), p. 214.

[31] Quoted by W.H. Chaloner, 'The Agricultural Activities of John Wilkinson, Ironmaster' *Ag. Hist. Rev.* **5** (1957), p. 49.

[32] A.H. Dodd, *The Industrial Revolution in North Wales* (1933), p. 39.

[33] Middleton, 'Early associations', p. 728.

[34] *English Landed Society in the eighteenth century* (1963), p. 190.

had done for many years, and he hastened usually not to make hay but to grow corn.'[35] James Gilray captured the spirit of the times in his cartoon depicting the Duke of Bedford sowing gold coins into the soil. [See *figure 1.3*]

Furthermore, the outbreak of the Napoleonic wars and the subsequent embargo on grain importation brought to fore a surge of patriotism among the landowning classes who felt duty-bound to increase agricultural productivity and thus, also output. This has been referred to as economic nationalism, 'an emphasis on the public as opposedto private good, and a preoccupation with the advantages to be gained from technological progress of all kinds.'[36]

A significant product of this general mood was the formation of a number of 'improving' agricultural societies by the more enterprising farmers and landowners who were striving to improve husbandry. The agricultural society was a vehicle for combining tendencies such as philanthropy, fashion, social prestige, patriotism and profit, which it seemed could conveniently go hand in hand. Some of these were purely local, while others had a wider field of influence. A lot of their time was taken up with local affairs, but there were also discussions of new methods and ideas in agriculture. At this time, when knowledge of agricultural science and technique was growing rapidly, the foremost duty of the landlord was the care and improvement of his estate and the encouragement of better farming by his tenants.

The first of the agricultural 'improvement' societies was 'The Honourable Society of Improvers in the Knowledge of Agriculture in Scotland' founded in 1723, with its headquarters in Edinburgh. The next was the Royal Society of Dublin, founded under the title of the 'Dublin Society for Improving Husbandry, Manufactures and other Useful Arts' in 1731. The Welsh Society of Cymmrodorian soon followed in 1751. The Society for the Encouragement of Arts, Manufacture and Commerce was founded in London in 1754 and became the Royal Society of Arts in 1847. The Bath

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[35] A. Briggs, *The Making of Modern England* (1965), p. 40.

[36] D.G.C. Allan, 'Notions of Economic Policy Expressed by the Soicety's Correspondents and in its Publications, 1754-1847: (I) Economic Nationalism' *J.R.S.A.* **106** (1958), p. 800.

Figure 1.3 : 'The Generae of Patriotism' by Gillray
Source M. Berman, *Social Change and Scientific Organization: The Royal Institution, 1799-1844* (1978).

and West of England Society, then known as the Bath Society was established in 1777. It has come to be popularly known as the Bath and West.

The rapidity with which agricultural societies increasingly colonized rural England from the 1750s onwards and the considerable contemporary interest which they generated make it all the more surprising that historians have not given more attention to their development. Up to a few decades ago, there had been a tendency to write the history of advancement in agricultural technique as the history of great men. Certain individuals like Arthur Young, for example, whose 'natural genius, cultivated talents, and benevolent exertions were disinterestedly and successfully devoted to the promotion of the...interests of the country' have been singled out.[37] The extent to which such men were glamourized by contemporaries, and are therefore well documented, has led to what may well be an exaggeration of their contribution to agricultural progress by historians whose accounts ascribe a key position to the proselytizing experimental farmer and large landlord. Lord Ernle is one such example. He has no hesitation in assigning a large part of the credit to a small band of pioneers such as Jethro Tull, Lord 'Turnip' Townshend, Robert Bakewell of Dishley, Arthur Young and Coke of Norfolk.[38] According to Ernle, the new methods were adopted largely as the result of the efforts of a few exceptional men like Arthur Young:

> A gay and charming companion, his enthusiasms were infectious. He was the soul and inspiration of the progressive movement. To him more than to any individual, were due the dissemination of new ideas on farming, the diffusion of the latest results of observation and experiment, the creation of new agencies for the interchange of experiences, the establishment of farmers' clubs, ploughing matches and agricultural societies and shows.[39]

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[37] J.G. Gazley, *The Life of Arthur Young, 1741-1820* (1973), p. 700.

[38] *English Farming Past and Present, 6th edition* (1961), p. 149. For his assessment of Tull, see pp. 169-72; for Townshend, pp. 173-5; Bakewell, pp. 176-88; and Coke, pp. 220-1.

[39] *Ibid.*, p. 197.

This genre of interpretation has been encouraged by the fact that biographical accounts of such individuals form by far the largest body of printed secondary material touching on the encouragement of agricultural innovation. Without in the least wishing to devalue the work of Arthur Young and the other 'great' innovators, one might not unreasonably suggest that such one-sided accounts are highly unsatisfactory and leave unanswered questions about the generation, acquisition and evaluation of agricultural information which are necessary for a fuller understanding of the process of change. Questions such as 'How was it that the late eighteenth - and early nineteenth - century farmer came to hear of new agricultural techniques...? How was it that...the farmer became sufficiently convinced of the utility of a new technique to want to try it?' cannot be answered by reference only to individual contributions.[40] To some, such questions may seem irrelevant in as much as improvements are seen to be 'naturally contagious'[41]:

> Many...think that advantageous innovations will sell themselves, that the obvious benefits of a new idea will be widely realized by potential adopters, and that the innovation will therefore diffuse rapidly. Unfortunately, this is very seldom the case. Most innovations, in fact, diffuse at a surprisingly slow rate.[42]

It often takes more than a beneficial innovation for its diffusion and adoption to occur. Sometimes, some sort of encouragement, or stimulus is called for. The premium system is one such stimulus.

1.3 Research Methodology and Sources

In the last few decades, several historians have given attention to the factors that contributed to the stimulation of innovation and exchange of information during the Agricultural Revolution and as a consequence, some headway has been made in

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[40] S. Macdonald, 'The Diffusion of Knowledge among Northumberland Farmers, 1780-1815' *Agric. Hist. Rev.* **27** (1979), p. 30.

[41] E. Kerridge, *The Agricultural Revolution* (1967).

[42] E.M. Rogers, *Diffusion of Innovations* (New York: 1983), p. 7.

identifying 'agents' of change such as land agents, agricultural literature, and individual farmers.[43] However, these do not consider the efforts of the agricultural societies and the premium system in any great detail and tend to dismiss their role in agricultural change.[44]

This comparative neglect of the agricultural societies in the existing literature on the improvement of agriculture is unfortunate because it creates a lacuna in our understanding of the dramatic agricultural changes that were taking place in the century after 1750. The premium system and the agricultural societies which operated it have rarely been a subject of scholarly scrutiny. The societies have generally been regarded as unimportant by historians and the bibliography on the subject is meagre. There have been accounts of these societies but these have focused almost exclusively on the history of the societies rather than their role as agents of change. This literature also tends to be limited to the larger agricultural societies.[45] Information on the provincial agricultural societies has been even less well-served by historians and

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[43] S. Macdonald, 'The Communication of Information and the Development of Agriculture in Northumberland, 1750-1850' Unpub. PhD thesis (Univ. Newcastle-upon-Tyne: 1975); J.R. Walton, 'The Development of Oxfordshire Agriculture, 1750-1880' Unpub. DPhil thesis (Univ. Oxford: 1976); Macdonald, 'Diffusion of knowledge'; *Idem.*, 'The Role of the Individual in Agricultural Change: The Example of George Culley of Fenton' in H.S.A. Fox and R.A. Butlin, *Change in the Countryside: Essays on Rural England, 1500-1900* (1979), pp. 5-21.; N. Goddard, 'The Development and Influence of Agricultural Periodicals and Newspapers, 1780-1880' *Agric. Hist. Rev.*, **31** (1983), pp. 116-131.

[44] Macdonald, 'Diffusion of knowledge'.

[45] B.T.B. Gibbs, *The Smithfield Club: a condensed history of its origins and progress from its formation in 1798 up to the present time* (1857); E.J. Powell, *History of the Smithfield Club from 1798 to 1900* (1902); H.T. Wood, *A History of the Royal Society of Arts* (1913); L. Bull, *History of the Smithfield Club from 1798 to* 1925 (1926) and *History of the Smithfeld Club from 1926-1950* (1952); J.A. Scott Watson, *The History of the Royal Agricultural Society of England, 1839-1939* (1939); A. Hobson, *Practice with Science: a brief history of the Royal Agricultural Society of England* (1953); D. Hudson and K.W. Luckhurst, *The Royal Society of Arts 1754-1954* (1954); K. Fitzgerald, *Ahead of their Time: a short history of the Farmers' Club, 1842-1967* (1968); R. Trow-Smith, *A History of the Smithfield Club* (1979); N. Goddard, *Harvests of Change: The Royal Agricultural Society of England 1838-1988* (1988).

while, some of the existing studies are relatively well executed, most amount to little more than superficial interpretations.[46] In some instances, these accounts can even be inaccurate. *The Bath and West: A Bicentenary History* can be singled out as an instance where the author, K. Hudson was seriously misled by the *public* evidence he had available on Dyke Acland's role. He asserted that Acland's active participation in and control of the Society's journal declined after he handed over his editorship in 1859. He based this conclusion on the official positions published in the journals. However, as it turns out, Acland continued to control the journal, despite there being another figure in the editor's position, because he was chairman of the Journal Committee. Indeed, if Hudson had taken a more detailed look at the Society's unpublished evidence, he would have found that Acland had retained his control over the Society's journal from 1850 to 1898.

A few studies on the Agricultural Revolution also make passing references to the existence of the agricultural societies. These have generally focused on the activities of the Royal Agricultural Society only. For example, C.S. Orwin and E.H. Whetham's *History of British Agriculture, 1846-1914* gives considerable credit to the achievements of the Royal Agricultural Society and Royal Highland and Agricultural

[46] J. Murch, 'The History & Literature of the Bath & West of England & Southern Counties' Society' *J.B.W.E.S.*, 4th series (1890-1), pp. 142-152; P.G. Selby, *The Faversham Farmers' Club and its Members* (1927); H. Edmunds, 'History of the Brecknockshire Agricultural Society, 1755-1955: Part I, The Early Years & Broad Operating Pattern' *Brycheiniog*, **2** (1956), pp. 29-57; *idem.*, 'History of the Brecknockshire Agricultural Society, 1755-1955: Part II, The Work & Times of the Society' *Brycheiniog*, **3** (1957), pp. 67-125; G.E. Fussell, 'Suffolk farmers and "The Bath and West"' *Suffolk Rev.* **2** (1959), pp. 13-17; H.C. Pawson, 'Plan of an Agricultural Society & Experimental Farm in Northumberland' *Agric. Hist. Rev.* **8** (1960), pp. 36-7; H. Edmunds, 'The Warwickshire Agricultural Society, 1831-1910' *R.A.S.E. Rev.* **2** (1966); K. Hudson, *The Four Great Men of the Bath and* West (1973); N. Goddard, 'Kentish Farmers' Clubs in the Mid-nineteenth Century' *Cantium*, **6** (1974) pp, 80-3; K. Hudson, *The Bath & West: A Bicentenary History* (Bradford-on-Avon: 1976); V. Hall, *A History of the Yorkshire Agricultural Society, 1837-1987* (1987); B. Greysmith, *A History of the Staffordshire Agricultural* Society (1978); C. Riddle, *'So Useful an Undertaking': A History of the Royal Cornwall Show, 1793*-1993 (1993). One suspects the existence of more publications of this kind but they are difficult to trace. Histories on Irish and Scottish societies are not included here.

Society. However, it does not mention any of the other societies, even in passing. Mingay's *Rural Life in Victorian England* remarks on the success of the agricultural shows organized by the Royal Agricultural Society but fails to mention any of the other societies who were also holding successful shows at the time. For the most part, the existing literature fails to assess the roles and functions of these agricultural societies.[47] Notable exceptions are J.A. Scott Watson and M.E. Hobb's *Great Farmers* which contains an interesting but brief discussion of several of the more prominent agricultural societies; R.C. Gaut's accounts of the role of local agricultural associations in the development of Worcestershire agriculture; G.E. Fussell's treatment of the part they played in the testing of implements; E.J. Russell's remarks on their contribution to experimental agriculture; and P. Horn's observations on the significant role played by the societies in spreading new ideas.[48] However, these are in no way exhaustive. For instance, E.J. Russell's generally commendable *History of Agricultural Science in Great Britain* is entirely mute on the contribution of the provincial societies to the new scientific orientation within the agricultural community during the mid-nineteenth century. In fact, he does not even mention the existence of the any improving institution other than the Royal Agricultural Society.

There remains little detailed analysis of these societies and their activities in the existing body of literature on the Agricultural Revolution and general economic and social history of the eighteenth and nineteenth centuries. In an impressive literature devoted to the scientific societies only a very small number deals with the advancement of the science of agriculture.[49] The nature and structure of the links

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[47] Orwin & Whetham, (Newton Abbot: 1971), pp. 33, 278, 314, 318; Mingay, (1976), pp. 35, 61-3, 65, 70.

[48] J.A. Scott Watson and M.E. Hobbs, *Great Farmers* (1937); R.C. Gaut, *A History of Worcestershire Agriculture and Rural Evolution* (1939), pp. 212-4, 363-5, 324-30, 337-81; G.E. Fussell, *The Farmers' Tools, 1500-1900* (1952); E.J. Russell, *A History of Agricutural Science in Great Britain* (1966), pp. 55-62; P.Horn, *The Rural World, 1780-1850: Social Change in the English Countryside* (1980), pp. 27, 237.

[49] A few examples of this impressive list includes H.B. Woodward, *History of the Geological Society of London* (1907); J.L.E. Dreyer and H.H. Turner, *History of the Royal Astronomical Society 1820-1920* (1923); E.K. Clark, *The History of 100 Years of Life of the Leeds Philosophical and Literary*

between science and technology form a part of most works dealing with the Industrial Revolution, yet the equivalent links in the Agricultural Revolution have received scant attention.

To date, there is no systematic account which recognizes the efforts of the agricultural societies as a whole. Kenneth Hudson's 1972 book, *Patriotism with Profit*, while a welcome addition to the literature, emphasizes rather than fills a gap in our knowledge. The approach here was limited as it does not go beyond the descriptive level and Hudson's superficial treatment of the subject leaves much to be desired.[50] Others have also tried to make up for this paucity of information in the last two decades. Two useful contributions are Harold Fox's 'Local farmers' associations and the circulation of agricultural information in nineteenth-century' and Nicholas Goddard's 'Agricultural Societies'.[51] However, both of these have focused on the

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Society (Leeds: 1924); T.R. Goddard, *History of the Natural History Society of Northumberland, Durham and Newcastle-upon-Tyne 1829*-1929 (Newcastle: 1929); S.D. Cleveland, *The Royal Manchester Institution from its Origin until 1882* (Manchester: 1931); T.S. Ashton, *Economic and Social Investigation in Manchester, 1833-1933: a Centenary History of the Manchester Statistical Society* (1934); J. Evans, *A History of the Society of Antiquaries* (Oxford: 1956); T. Sprat, *The History of the Royal Society of London for the Improving of Natural Knowledge* (1667, Reprint edition: 1959) J.I. Cope and H.W. Jones (Eds.); H. Hartley (Ed.), *The Royal Society: its origins and founders* (1960); L.P. Williams, 'The Royal Society and the founding of the British Association for the Advancement for Science' *Notes and Records* **16** (1961), pp. 221-33; R.E. Schofield, *The Lunar Society of Birmingham: A Social History of Provincial Science and Industry in eighteenth century England* (Oxford: 1963); C. Webster, 'The Origins of the Royal Society' *Hist. Sc.* 6 (1967), pp. 106-28; A.D. Orange, 'The Origins of the British Association for the Advancement of Science' *BJHS* **6** (1972), pp. 152-76; *idem., Philosophers and Provincials: The Yorkshire Philosophical Society from 1822 to 1844* (York: 1973); *idem.*, 'The Idols of the Theatre: The British Association and its early critics' *Ann. Sc.* **32** (1975), pp. 277-94; M.E. Berman, *Social Change and Scientific Organization: The Royal Institution, 1799-1844* (1978); J. Morrell and A. Thackray, *Gentlemen of Science: Early Years of the British Association for the Advancement of Science* (Oxford: 1981).

[50] K. Hudson, *Patriotism with Profit, British Agricultural Societies in the Eighteenth and Nineteenth Centuries* (1972).

[51] H.S.A. Fox, 'Local farmers' associations and the circulation of agricultural information in nineteenth-century' in H.S.A. Fox & R.A. Butlin (Eds.), *Change in the Countryside: Essays on*

nineteenth century societies and disregarded those formed earlier in the eighteenth century. Furthermore, both are concentrated into a mere chapter of more general books and perhaps the limitations of time or space or both fail to provide any comprehensive analysis of the activities of the societies. In his conclusion, Fox recognizes that 'there is much scope for future work; especially the role of the societies in 'the circulation of information.'[52]

The premium system has also not been considered in any great detail. This is unfortunate because it was one of the basic ways in which the agricultural societies sought to stimulate agricultural progress. Some historians have mentioned the premium system in passing but there has been no general study of the system as a whole.[53] Little attempt has been made to assess the part played by premiums in stimulating innovation during the Agricultural Revolution and this remains largely the case. In contrast, the relationship between the patent system and the Industrial Revolution has been a subject upon which many economic historians have remarked.[54]

It is not easy to account for this scholarly neglect though it has been suggested that 'the neglect is part of a failure by historians of English agriculture to give adequate consideration to such questions as how information was generated and spread among farmers'.[55] Thus, neither the societies nor the premium system have received anything

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Rural England, 1500-1900 (1979), pp. 43-63; N. Goddard, 'Agricultural Societies' in G.E. Mingay (Ed.), *The Victorian Countryside, Vol. I* (1981), pp. 245-259.

[52] *Ibid.*, p. 55.

[53] A short but useful discussion of the premium system as an alternative to the patent system can be found in C. Macleod, *Inventing the Industrial Revolution: The English Patent System, 1660-1800* (Cambridge: 1988), pp. 190-6.

[54] A.A. Gomme, *Patents of Invention* (1946); K. Boehm and A. Silberstein, *The British Patent System, I. Administration*, (Cambridge: 1967); H.I. Dutton, *The Patent System and Inventive Activity during the Industrial Revolution, 1750-1852* (Manchester: 1984); and MacLeod, *Inventing the industrial revolution.*

[55] N.P.W. Goddard, 'The Royal Agricultural Society of England and Agricultural Progress, 1838-1880' Unpub. PhD thesis (Univ. Kent: 1981), p. 19.

like the attention that they deserve. Such neglect creates a blank in our appreciation of the process of agricultural change and the effectiveness of the premium system as a method of diffusing knowledge and stimulating innovation.

This study will attempt to redress the balance. The purpose here is to analyze the agricultural aspect of the premium system and to provide an overall picture of its development and decline as operated by the agricultural societies. The period covered is relatively long, starting in 1754 and terminating in 1870, and one which was exceptionally rich in agricultural innovations. The time scale of this study has been determined by several factors. This period also saw a dramatic increase in the number of agricultural societies in England. The origins of the societies lie in the intellectual and social fabric of society in the years leading up to 1754 when the first institution for the encouragement of agriculture, among other things, the Society of Arts, was formed. Hence 1754 marks the approximate starting point of this study. This starting point also coincides with the start of the Agricultural Revolution around the mid-eighteenth century. Estimates of when the Agricultural Revolution took place differ dramatically. [See *figure 1.4*] The pendulum has swung repeatedly: from an eighteenth century Agricultural Revolution to the 'new orthodoxy' in the 1960s purporting that the Agricultural Revolution was a seventeenth century event, back again to the century after 1750 being re-established as a crucial period of agricultural advance and once again being designated as one in which agrarian developments amounted to an 'Agricultural Revolution'.[56]

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[56] M. Overton, 'Agricultural revolution? Development of the agrarian economy in early modern England' in A.R.H. Baker and D. Gregory (eds.), *Explorations in Historical Geography: Interpretative Essays* (1984), pp. 118-39; *idem.*, 'Agriculture' in J. Langton and R.J. Morris (eds.) *Atlas of Industrializing Britain, 1780-1914* (1986), pp. 34-53; J.V. Beckett, *The Agricultural Revolution* (Oxford: 1990); M. Overton, 'Agricultural revolution? England, 1540-1850' in A. Digby and C.H. Feinstein (eds.), *New Directions in Economic and Social History* (1989), pp. 9-21. *idem.*, 'The Critical Century? The Agrarian History of England and Wales', *Agric. Hist. Rev*, **38** (1990), pp. 185-9; *idem.*, 'Re-establishing the English Agricultural revolution', *Agric. Hist. Rev.*, **44** (1996), pp. 1-20; *idem.*, *Agricultural revolution in England: The Transformation of the Agrarian Economy, 1500-1850* (1996).

The choice of the terminal date of 1870 is justified by a combination of two 'turning points'. The first was the shift in the emphasis of the agricultural societies from premium- giving to show-organizing institutions. From this date, premiums lose their earlier significance. The second was the transition from the ephemeral 'golden age' of

Post-1750 Agricultural Revolution	Pre-1750 Agricultural Revolution
Stage 1. Traditional view: → The view that the Agricultural Revolution took place in the century after 1750, held by historians such as Ernle (1961); Chambers and Mingay (1968).	Stage 2. 'Kerridge' Revolution Kerridge (1967) challenged the conventional view in the 1960s and argued that the Agricultural Revolution started as early as 1560 and all of its main achievement were through before 1720.
Stage 3. New Orthodoxy: ↙ Overton (1990, 1996), Crafts (1985) and Turner (1982) attacked Kerridge's revolution and re-established the Agricultural Revolution as a post-1750 event once again.	

Figure 1.4 : Views of the Agricultural Revolution
Source : Lord Ernle, *English Farming Past and Present, 6th edition* (1961); J.D. Chambers and G.E. Mingay, *The Agricultural Revolution 1750-1880* (1966); E. Kerridge, 'The Agricultural Revolution Reconsidered' *Agric. Hist.* **43** (1969) pp. 463-475; M.E. Turner, 'Agricultural Productivity in Eighteenth Century England: Evidence from Crop Yield' *Ec. Hist. Rev.* **35** (1982), pp. 489-510; N.F.R. Crafts, *British Economic Growth during the Industrial Revolution* (Oxford: 1985); M. Overton, 'The Critical Century? The Agrarian History of England and Wales, 1750-1850' *Agric. Hist. Rev.* **38** (1990) pp. 185-9; *idem.*, 'Re-establishing the English Agricultural Revolution' *Agric. Hist. Rev.* **44** (1996) pp. 1-20.

mid-nineteenth century agriculture to the harsher economic climate of low prices and accompanying rural distress for agriculture of the 1870s.[57] According to F.M.L. Thompson, his 'second Agricultural Revolution' which began in 1815 was a 'force which was spent' by 1880.[58]

In detail, the thesis considers the contribution of the agricultural societies in encouraging agricultural improvement and the effectiveness of premiums for

[57] P.J. Perry, *British Farming in the Great Depression, 1870-1914* (1974), p. 1.

[58] 'The Second Agricultural Revolution', *Ec. Hist. Rev.* **21** (1968), pp. 64-5.

stimulating both invention and the diffusion of innovation. Due to the limitations of original documentary sources, it will not be possible for this study to cover *all* the agricultural societies ever formed in England. The manuscript records of the smaller local agricultural societies are not particularly easy to come by. Even the number of societies that existed at the time is a rough approximation because the societies were not federated, and because the State showed little interest in their activities, no official lists were compiled during the nineteenth century. Precise figures therefore cannot be given. The first official list appears to have been that prepared by the Board of Agriculture, Fisheries and Food, *Directory of Agricultural Association in Great Britain for 1910*. Towards the end of the nineteenth century, yearbooks such as the *Agricultural Annual and Mark Lane Express Almanac* contained lists of societies but they have the appearance of being incomplete. Three useful but undoubtedly incomplete early lists were compiled by Arthur Young in 1803, the Bath and West in 1810; and Farey in 1817.[59]

However, as imitation inspired the foundation of most of these organizations and consequently, there was a common pattern in their aims and methods, the available records can be used as the basis of a general survey. In the absence of any further documentary evidence, one can only take these instances as being indicative of what was happening more generally. To a large extent, this study has been shaped by the existing evidence. Borrowing the words of a fellow historian, the late Harry Dutton, 'There is, of course, nothing unique about that: records were hardly ever created for posterity, let alone for historians learning a difficult craft.'[60] The available sources give particularly interesting insights into the workings of the various societies and have also been employed to demonstrate the more general trends of development. The records used for this study are as follow:

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[59] A. Young, 'A List of Agricultural Societies in the United Kingdom'; *Letters and Papers* **12** (1810), pp. 396-403; J. Farey, *General View of the Agriculture and Minerals of Derbyshire, Vol. 3* (1815-17), pp. 651-4. A list of societies compiled from these sources is reproduced in APPENDIX 1.

[60] Dutton, *The patent system*, p. 8.

- The archives and library of the Royal Agricultural Society at the Rural History Centre at the University of Reading.
- The archives of the Royal Bath and West of England Society, held at the Bath City Record Office and the library of the Royal Bath and West of England Society at the University of Bath Library.
- The archives and library of the Royal Society of Arts at the Society's premises at 8 John Adam Street, London.

These records have been extensively consulted to build up a picture of how the societies developed and operated. However, these sources often give little indication of how decisions were arrived at. The agricultural periodicals, newspapers and pamphlets of the period have been a valuable source for the comments, discussions and reactions of farmers in this period. The *Farmer's Magazine* has been extensively consulted as a source for this study and has provided a great deal of material on attitudes and arguments concerning agricultural societies and the premium system.[61] The minutes of the Royal Agricultural Society Council meetings were also published with little revision in the *Farmer's Magazine* from 1841 onwards.

The promotion of agriculture by the agricultural societies will be mainly discussed with reference to three agricultural societies: the Society of Arts, the Royal Agricultural Society and the Bath and West Society. The Society of Arts and the Royal Agricultural Society will represent two national societies that were prominent during the eighteenth century and the nineteenth century respectively. The Society of Arts, founded in 1754, maintained an active interest in agriculture from its foundation till the early years of the nineteenth century. However, for reasons which will be given later, its interest declined from the late 1820s onwards. The timing of the Royal Agricultural Society's foundation in 1838 and its subsequent prominence in the middle decades of the nineteenth century fulfilled the niche left by the Society of Arts. The Bath and West, being the only society which flourished in the both eighteenth and

[61] The serialization of the *Farmer's Magazine* is as follows: First Series, Vol. 1-8 (1834-8); New Series, Vol. 1-3, (1838-9); Second Series, Vol. 1-24 (1840-51); Third Series, Vol. 1-59 (1852-1881). The *British Farmer's Magazine* has identical content after 1846.

nineteenth centuries will be used as the example of the provincial societies for both centuries.

A number of important questions will also be ignored. The focus of this study is England and the adjective 'English' has been used. Even though some of the individuals mentioned were Scottish, such as Sir John Sinclair, they were actively involved with the improvement of English agriculture and are thus vital to the account. Ireland and Scotland, being part of Great Britain will be mentioned only in terms of their being precedents to the development of the English societies. The use of the premium system was not restricted to agriculture alone. At the time, it was also used to stimulate invention in industry, commerce, manufactures, engineering and the fine arts. However, there will be no direct discussion of what effect premiums had on the development of these areas. These are all interesting questions but would require separate studies. The male gender is used throughout in referring to the members of the agricultural societies, not through inadvertence, but because 99% of them were indeed male. 'Women were peripheral to such organizations. They might give subscriptions or act as spectators at selected events, but were ineligible as effective members.'[62]

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The general intention of this study is thus twofold: firstly, it will review the agricultural societies within the context of the development of 'institutional means' for the promotion of agricultural improvement, and secondly, it will assess the effect of premiums on agricultural innovation during the Agricultural Revolution. Chapter 2 will look at the establishment of the early societies for improving agriculture which appeared from the mid-eighteenth century onwards and identify the circumstances which led to their formation. Chapter 3 will trace the origins of the premium system. Chapter 4 will discuss the operation of the premium system and the activities of the early societies, the Society of Arts and the Bath and West Society. Chapter 5 will

[62] L. Davidoff, 'The Role of Gender in the "First Industrial Nation": Farming and the Countryside in England, 1780-1850' in *idem.*(Ed.), *Worlds Between: Historical Perspectives on Gender and Class* (Cambridge: 1995), p. 183.

examine the agricultural societies which were formed in the nineteenth century and how these differed from those of the first period. The societies of the second period also came up with a new channel of promoting agricultural improvement: the agricultural show. Chapter 6 will discuss the decline of the premium system which became apparent from the 1850s onwards, and discuss the transformation of a system actively using premiums to encourage innovation to a token prize system awarding blue ribbons at agricultural shows. Chapter 7 will evaluate the effectiveness of the premium system and the agricultural societies in promoting agricultural improvement. Chapter 8 will consider the patent system as an alternative to the premium system for stimulating innovation. The concluding chapter will assess the overall impact of the premium system on the Agricultural Revolution, address some of the issues that have arisen from the research and cite opportunities for further research.

2. EARLY SOCIETIES AND INSTITUTIONS

Societies for improving agriculture began to appear in the eighteenth century. As this chapter will show, the circumstances that led to the formation of the agricultural societies were no different from those that led to the establishment of numerous other 'improving' societies. The formation of these societies was part of a wider societal tendency to form clubs and societies that became popular from the eighteenth century onwards. The first half of the eighteenth century in England was a time when religious and political fanaticism was at a discount and persons with similar interests enjoyed an unprecedented freedom to associate together. Both Scotland and Ireland had institutions for promoting agricultural improvement before England. However, the circumstances that stimulated the foundation of such organizations in Scotland and Ireland were distinct from those in England. Over and beyond the factors that led to the establishment of the English societies, the early Irish and Scottish societies came about as a result of the need for a national identity and a sense of self-reliance.

2.1 ESTABLISHMENT OF AGRICULTURAL SOCIETIES

During the first half of the eighteenth century in England and Wales, there was no organization concerned with the promotion of agriculture although the Royal Society, founded in 1660, had given attention to agriculture in its early years. However, its interest in practical subjects waned after its reorganization in 1690 and it gave more attention to theoretical speculation. From the 1750s onwards institutions for the encouragement of agriculture began to proliferate and these agricultural societies were usually formed by enthusiastic 'improvers', eager to convince farmers that new techniques and implements would bring them a higher and more reliable income.

These organizations for agricultural improvement occurred at two levels: national and provincial. The first national society to promote agricultural improvement was The Society for the Encouragement of Arts, Manufactures and Commerce - generally known as the Society of Arts - established in 1754. The fostering of agricultural innovation was one of its prime objectives well into the nineteenth century. The first

institution to be devoted entirely to agriculture was the short-lived, semi-official Board of Agriculture (1793-1822). Best remembered for its county reports, the Board engaged in a variety of projects connected with rural economy. Its successor was the Royal Agricultural Society of England (hereafter referred to as the RAS), established in 1838 and heralded as the 'premier agricultural institution in Victorian England'.[1]

In addition to these national institutions were the numerous provincial agricultural organizations ranging from the major regional societies to the humble local societies. The activities of the regional societies were usually limited to one region (for example, the Bath and West Society and the west country) or one county (the Royal Yorkshire Society and Yorkshire) while the local or district agricultural societies were limited to one market town or village (the Frome Agricultural Society). It has been claimed that by 1838 when the RAS was formed, a great deal of invaluable pioneering work had already been carried out by the provincial societies.[2] These originated in the late eighteenth century but underwent a remarkable expansion in early Victorian times. In 1835, the number of provincial societies numbered around a hundred but in the span of one decade, their number increased to four hundred.[3]

At the local societies' level, there were also institutions that called themselves 'farmers' clubs'. These witnessed a phenomenal increase from the 1830s onwards.

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[1] Goddard, 'Agricultural societies', p. 245. Elsewhere, Goddard has argued that there were no institutions exclusively concerned with agricultural improvement in England until the nineteenth century with the formation of the RAS. Yet, he is prepared to concede that there were a number of national institutions such as the Society of Arts (1754), the Smithfield Club (1799) and the semi-official Board of Agriculture (1793), which took an interest in agriculture, or some branch of it, or whose activities were of relevance. Surely this would mean that institutions for the promotion of agricultural improvement *did* exist in the second half of the eighteenth century and the distinction he underlines, that is, between 'devoted entirely to agriculture' and 'agricultural innovation [as] one of its prime objectives', is a tenuous one. See Goddard, thesis, p. 36.

[2] Hudson, *Patriotism with profit*, p. xi.

[3] *Agriculturist*, 2 January 1836; Goddard, 'Agricultural societies', p. 246. According to Joseph Plowman, there were seven hundred organizations for the improvement of agriculture by 1855, 'Oxford Farmers' Club Prize Essay' *Br. F.M.* 27 (1855), p. 380.

These more local, less formal clubs abandoned prizes for the servant who had been with the master longest or who had raised most children without resorting to the parish. Their meetings debated strictly practical subjects, and their membership was one of 'social and occupational equals.' Farmers' clubs saw themselves as the rural equivalent to the urban mechanics' institutions, a manifestation of a desire for self-improvement on the part of the tenant farmers, often of very modest means.[4] In an important survey of the role of local associations in the spread of agricultural information, H.S.A. Fox has argued that the distinction between clubs and societies was not fundamental. The clubs essentially operated within a smaller compass and with more modest resources than the societies.[5] While it is true that there was a considerable degree of overlap between the functions and the methods of the clubs and societies, the distinction between them recognized by contemporaries who termed clubs another 'class' of institution is worthy of note.[6] As Charles Poppy, chairman of the Ashbocking Club observed in 1837, 'societies were established by the aristocracy for cattle shows, ploughing matches and for premiums to servants'. Generally, landowners belonged to the agricultural societies and tenants belonged to the farmers' clubs. [7] In this study, farmers' clubs will not be regarded as being analytically distinct from the agricultural societies. Essentially, they were all established to improve and diffuse the stock of knowledge available to agriculturists of the eighteenth and nineteenth centuries.

Although one may speak of a 'movement' to establish agricultural societies - for imitation inspired the foundation of most of these institutions and there was a common pattern in their aims and methods - the movement was loosely structured and federation was never achieved. The three principal national societies - the Society of Arts, the Smithfield Club and the RAS - which aspired to country-wide

[4] Goddard, 'Agricultural societies', p. 252.

[5] Fox 'Local farmers' associations', p. 46

[6] C. Poppy, *F.M.* 2 (1840), p.9; J.C. Morton, 'Agricultural Progress: Its Helps & Hindrances' *J.S.A.*, **12** (1863-4), p. 62.

[7] *F.M.* **8** (1838), p. 333.

membership were not 'parent' bodies to the regional and local societies and the latter proudly maintained a strong independence from the former.

Nonetheless, there was little fundamental distinction, apart from a distinction in size, between the national and provincial agricultural societies. They had the same general objectives, but there were differences in emphasis. Thus, it was a difference of degree rather than of kind. The national societies were concerned with invention, innovation and improvement that they sought to secure by offering 'premiums' for items specified on annual lists and by promoting the spread of information by publication. Regional or provincial agricultural societies also offered premiums but these were more usually for excellence and emulation rather than invention and innovation. The acquisition and evaluation of information was also an important function of the provincial agricultural societies and they also had an important social role. Their shows, gatherings and dinners were a much valued part of English rural life. Organizations at both levels had the political objective of influencing the legislature that was generally seen as hostile to the agricultural interest.

Two distinct periods of development can be identified in the establishment of agricultural societies. The first took place in the second half of the eighteenth century between 1754 and 1799; the second from the 1830s onwards. From the 1750s till the end of the eighteenth century, there had been great enthusiasm for agricultural improvement that stimulated the foundation of several agricultural societies. However, this impetus for improvement was lost in the immediate post-war years and the societies made little progress during those difficult years. After the 1830s, that enthusiasm revived and was carried further than ever before and the agricultural societies increased rapidly in size and importance. 'Improvement' became the order of the day: drainage schemes were completed, new buildings erected, machinery purchased and work on crop rotations and stock breeding carried out. It was also in this period that the second 'impetus' for establishing agricultural societies took place.

The discussion of the agricultural societies will be organized under these two periods of development that will be referred to hereafter as the first period (1754-799) and

the second period (*c.*1830 onwards) respectively. The societies of the first period will be referred to as the early societies and those of the second period as the later societies.[8] While the ultimate goal of the societies was to promote the improvement of agriculture, the distinction between the two periods can be found in the outlook. The fundamental concern of the second period was the application of science to agriculture prompted by a realization of the great potentialities of science for raising agricultural productivity. Henry Handley, one of the chief promoters of the newly formed RAS, declared that science was the pilot that must steer them into those 'hitherto imperfectly explored regions'.[9]

2.2 FORMATION OF CLUBS, SOCIETIES AND INSTITUTIONS

The establishment of agricultural societies took place alongside a more general trend to form associations in society at large. In medieval times, religious, local and occupational organizations provided a framework for most human aspirations. Under the absolute monarchies of the sixteenth and seventeenth centuries, initiative flowed from the Crown. However, in the eighteenth century, the executive government was both constitutionally limited and largely preoccupied with the finance of a recurring series of wars. It was in this century that institutions for the attainment of national aims that bore the relatively new name of 'societies' emerged. As the fear of religious and political persecution lifted with the end of the seventeenth century, so the desire to form associations grew amongst Englishmen. The association of private citizens for public purposes is a phenomenon which may be expected to occur in communities which have to some extent established their constituional limitations of government.[10]

The 'associative principle' had attracted various people in the latter part of the seventeenth century and suggestions for different kinds of societies were put forward

[8] The first period of development will be discussed in a later section of this chapter (2.4) and in FOUR (4.2). The second period will be discussed in FIVE (5.2) and (5.3).

[9] *A Letter to Earl Spencer on the Formation of a National Agricultural Institution* (1838), p. 6.

[10] D.G.C. Allan, *William Shipley: Founder of the Royal Society of Arts* (1979), p. 7.

in the writings of the day.[11] This fervour to form societies was coupled with the revival of the idea of corporate responsibility for public morals and public encouragement. The best known and most prominent society at that time was the Royal Society. David Allan suggests that the foundation and support of 'Œconomical Societies' was 'a feature of the international culture of the "Enlightenment."' Organizations were set up at Philadelphia, in the German princely states, in the free city of Hamburg, in Dutch and Swiss towns, and in French and Spanish provinces to stimulate industry and agriculture by means of monetary grants, honorific awards and the diffusion of knowledge.[12]

The creation of formal, voluntary associations increased in number, variety and public importance during the eighteenth century. This quickened in its pace towards the end of the eighteenth century and the beginning of the nineteenth century. This phenomenon is reflected in contemporary literature. Charles Dickens, in his first periodical, *Master Humphrey's Clock*, records the activities of the Mudfog Association, with all its little formalities, its concern for rules, and its sense of importance and purpose.[13]

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[11] G.V. Portus, *Caritas Anglicana, or, An Historical Inquiry into those Religious and Philanthropical Societies that flourished in England between the Years 1678 and 1740* (1912), pp. 156-7.

[12] D.G.C. Allan includes among his 'Œconomical societies', artistic and scientific academies, hospitals, universities, botanical gardens, and other public, civic, and royal amenities. 'The Society of Arts and Government, 1754-1800: Public Encouragement of Arts, Manufactures. and Commerce in Eighteenth-Century England' *18th C. Stud.* 7 (1974), p. 434. For the societies outside England, see for example, S.W. Fletcher, *The Philadelphia Society for Promoting Agriculture* (Philadelphia: 1959); J.A. Prescott, 'The Russian Free (Imperial) Economic Society, 1765-1917', *J.R.S.A.* **114** (1965), pp. 33-7.

[13] R.J. Morris, 'Clubs, societies & associations' in F.M.L. Thompson (Ed.), *The Cambridge Social History of Britain, 1750-1950, Vol. 3, Social Agencies & Institutions* (Cambridge: 1990), p. 395.

One development that proved a major impetus to the rise of the 'club' was the establishment of a new kind of refectory known as the 'coffee-house'.[14] Although coffee had been used privately in England some years earlier, the first public coffee-house was opened in Oxford by a Jew named Jacobs in 1650. It was not until 1652 that London's first coffee-house was established. According to R.J. Allen, the traditional story is as follows:

> A certain Mr Edwards acquired the coffee-drinking habit while travelling in Turkey as a merchant. Upon his return to England, he continued his practice, his coffee being prepared by a servant, Pasqua Rosee, whom he had brought home with him. Edward's friends developed such a fondness for the beverage that they soon became a serious strain upon his hospitality. Accordingly, he devised the expedient of setting up Pasqua in the business of dispensing coffee publicly. From the first opening of the house 'by Pasqua Rosee, in St. Michael's Alley, Cornhill, at the sign of his own head,' the enterprise was crowned with success.[15]

It appears that the keepers of taverns and ale-houses protested vigourously at its incursions into their trade.[16] Surviving early antagonism by the vintners, the new drink gained amazingly in popularity and a number of coffee houses which sprang up in London included the Rainbow, Garraway's, Miles's and Wills. From the outset, coffee-houses shared in the attraction which taverns had always held for social gatherings. The coffee-house soon developed into a medium for the exchange and

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[14] According to the *New English Dictionary*, the word 'club' means 'a meeting or assembly at a tavern, etc., for social intercourse' and its earliest use was in Sir William D'Avenant's *Long Vacation in London* (1648), R.J. Allen, *The Clubs of Augustan London* (1933), p. 3

[15] *Ibid.*, p. 13.

[16] A petition was presented by the tavern-keepers in 1673 stating that tea, coffee and brandy should be prohibited as the use of these 'newer' beverages interfered with the consumption of barley, malt and wheat, the 'native' products, B. Lilywhite, *London Coffee Houses: A Reference Book of Coffee Houses of the seventeenth, eighteenth and nineteenth centuries.* (1963), p. 17.

distribution of news and intelligence. Men of all stations in life assembled in them to converse with their friends and to make the acquaintance of the new, exotic 'liquor'.[17]

Furthermore, with the Restoration and the curtailment of the Royal prerogative, English citizens were also beginning to feel their political importance, and numerous factions needed places for forming and discussing their ideas.[18] They gravitated naturally to coffee-houses, which they found admirably suited to their aims.[19] By the beginning of the eighteenth century, coffee-houses 'were embryo clubs, where customers for the price of their coffee could read the newspapers and talk by the hour.'[20] Each house acquired its own distinctive clientele according to its locality. In London, the followers of the Court, the Whigs and the Tories used the houses in Westminster, Whitehall, St. James's and Pall Mall. The Navy, Army, the 'Gentlemen of the Law', the doctors and clergy, and other professional gentlemen were to be found in Charing Cross, Strand, Fleet Street, St. Martin's Lane and Holborn. Booksellers and publishers made full use of those round St. Pauls and Ludgate Hill. The coffee-houses of Covent Garden and Temple Bar were favourite resorts for authors and wits. The newswriters and the quacks visited the lot. The literary, the intelligentsia, the wits and men of science all tended to congregate in a few houses that changed according to the ebb and flow of fashion and other reasons.[21]

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[17] Allen, *Clubs*, pp. 13-4.

[18] P. Fraser has identified Charles II's reign as the period when 'an organized public opinion; that is to say, a widespread public constantly interested in politics and the course of events, and having the means for exchanging opinions and combining to put pressure on the government' first came into existence, *The Intelligence of the Secretaries of State and their Monopoly of Licensed News, 1660-1688* (Cambridge: 1956), p. 114.

[19] 'The rise of the coffee-houses...has prompted the German social theorist Jurgen Habermas to argue that "a public sphere that functioned in the political realm arose first in Great Britain at the turn of the eighteenth century." By public sphere Habermas means specifically an arena for public discussion, a space created for the "people's public use of their reason."' S. Pincus, '"Coffee Politicians Does Create": Coffee-houses and Restoration Political Culture' *J. Mod. Hist.* **67** (1995), pp. 807-8.

[20] Hudson and Luckhurst, *Society of Arts*, p. 5.

[21] Lilywhite, *Coffee Houses*, p. 23.

Far from being a phenomenon limited to the metropolis, the coffee-house was an institution that quickly spread to the provinces and was widely distributed in England. Entrepreneurs opened coffee-houses in a variety of larger English towns. England's two university towns soon sported a variety of coffee-houses. There was a coffee-house in York by 1669. Bristol and Exeter also boasted a number of coffee-houses. In Nottingham, a coffee-house run by Slater was known for its 'liberty of speech' and 'intelligence'. The merits and demerits of William III's invasion were hotly debated in Preston's coffee-house in 1688. Plymouth's coffee-house hosted a learned discussion of whether 'wounds of the brain were curable' in the early 1680s. Harwich and Yarmouth both had coffee-houses as early as the 1660s. In all, the coffee-house was 'ubiquitous and widely patronized' throughout the country.[22]

The coffee-house became so fashionable for several reasons. One explanation is that in an age of rising beer prices, coffee provided a cheap alternative. Another is the beneficial effect that coffee, as opposed to ale, had on the labour force and commercial relations. However, cost-effectiveness and sobriety aside, most people began to frequent this new establishment because it specialized in the circulation of news. Furthermore, it was also the site of learned discussions about a wide variety of issues. Robert Boyle, Robert Hooke, Henry Oldenburg, and other members of the Royal Society could be found in coffee-houses, particularly Garraway's, discussing politics. It was also the place where the English citizen with his sense of new-found importance could discuss polititcs:

> Surely the coffee-house was the most democratic institution of an age of unprecedented democracy; and as such it was necessarily an important factor in the rise of the club.[23]

Coffee-house meetings turned themselves into clubs and the best known were the London political clubs like the Whig Green Ribbon Club, the Kit Kat Clubs and the

[22] Pincus, 'Coffee politicians', pp. 811, 813-4.

[23] Allen, *Clubs*, pp. 14-5.

Tory Loyal Brotherhood.[24] The clubs of late seventeenth-century had little more than a time and place of meeting and an identity. By beginning of the eighteenth century, the club began to usurp the place of the tavern and the drawing-room. It became the place to which the gentleman or the citizen retired after dinner to converse with his peers over a bottle of wine or a tankard of ale, to be joined at supper, perhaps by more companions just returned from the theatre. There, events were discussed, principles were evolved, and business was transacted. In time, 'many clubs were dignified with the name of societies'[25]

> [The] defining characteristics [of the early societies] were minimal, a set of rules, a declared purpose and a membership defined by some formal act of joining...They emerged from the public house and the coffee-house into purpose-built Halls, Institutes and Assembly Rooms.[26]

As these informal groups began to gain a structure and the discipline of rules, they brought a little order to the exchange of ideas and the discussion of issues. The increase in formality was reflected in the series of new words that came into common use in the English language, often changing or adding to their meaning. Dr Samuel Johnson defined a club as 'an assembly of good fellows meeting under certain conditions' in the mid-eighteenth century. By the beginning of the nineteenth century, it was 'an association of persons subjected to particular rules'.[27] The societies created from the 1750s onwards were diverse in their purpose, form, size and membership'.[28] They were concerned with a variety of activities ranging from poor relief, medical

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[24] It appears that the rise of political clubs became was so rapid after the Restoration that in 1675, a Proclamation of Charles II was passed which temporarily closed all the coffee-houses of London. The reason given was that the malcontents used these clubs to propagate lies and misrepresentations of the government. However, the public uproar which immediately followed soon caused the order to be withdrawn. Allen, *Clubs.*, p. 19; Lilywhite, *Coffee Houses*, p. 18.

[25] Allan, *William Shipley*, p. 8.

[26] Morris, 'Clubs, societies and associations', pp. 395-6.

[27] S. Johnson, A.M., *A Dictionary of the English Language...*(1755); Rev. H.J. Todd, *A Dictionary of the English Language by Samuel Johnson...with Numerous Corrections and Additions* (1818).

[28] R.J. Morris, 'Voluntary Societies and British Urban Elites, 1780-1850' *Hist. J.* **26** (1983), p. 95.

aid, moral reform, public order, education and thrift, to the diffusion of science and culture and the organization of leisure.

One of the earliest societies formed was the Society of the Dilettanti, founded in 1732 for 'Friendly and Social Intercourse'. It has been suggested that the Society's use of the Roman toga may be regarded as part of the same tendency to ritualism which could be seen in revived Freemasonry and Rosicrucianism. Another Masonic lodge was 'The Society for the encouragement of Learning', established in 1735 'to institute a republic of letters for promoting the Arts and Sciences.' Even the Society of Antiquaries had strong ties with Freemasonry. [29]

The timing of the formation of each society in specific places was influenced by two sorts of pressure: crisis and fashion. Many foundations were part of a response to a specific crisis. For example, the typhus epidemic that followed the food scarcity of the winter of 1799-1800 in Leeds led to the opening of a fever hospital, the House of Recovery, in the north-east edge of town, in 1804. Furthermore, as the density of the network of societies increased, society formation tended to be influenced by fashion and the example set by established societies. For example, numerous Mechanics' Institutes were formed after the establishment of the London Institute in 1824.[30] A different sort of influence was brought by the English tours of Scotsmen like John Dunlop in 1830-1 that left a rash of anti-spirits societies in their wake.[31] Although

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[29] Allan, *William Shipley*, p. 8. For the Society of Dilettanti, see L. Cust, *History of the Society of the Dilettanti* (1898); for the 'Society for the Encouragement of Learning', see N. Hans, *New trends in Education in the eighteenth century* (1951); and for the Society of Antiquaries, see J. Evans, *A History of the Society of Antiquaries* (Oxford: 1956). A.E. Musson and E. Robinson have argued that the formation of the various philosophical societies during the late eighteenth century could be seen as 'a new freemasonary' which 'linked together manufacturers, scientists, and men of letters and speeded the technological advance of the Industrial Revolution.' *Science and Technology in the Industrial Revolution* (1969), p. 191.

[30] J.F.C. Harrison, *Living and Learning, 1790-1960: A Study in the History of the English Adult Education Movement* (1961), pp. 59-61.

[31] B. Harrison, *Drink and the Victorians: The Temperance Question in England, 1815-1872* (1971), p. 104.

London was the most frequent and direct source of fashion and influence in the formation of societies, it was not always the source of innovation. Many of the crucial societies originated in Scotland. The Mechanics' Institute movement was based upon the work of Anderson in Glasgow, but needed its transition to London before becoming a national movement.[32]

Most significantly, societies were established for the association and fellowship of its members where the members were held together by some common interest, profession or characteristic. For example, there was the Cockerham Association for the Distribution of Bibles and Prayer Books in Lancashire; the Chelmsford Tradesmen's Club in Essex; and the very quaint Most Honourable and Facetious Society of Ugly Faces in Liverpool. The Society of Ugly Faces was founded in 1744 and members' 'qualifications' for admission had to be described in full and humorous detail in the minute book.[33]

The characteristic form of these societies was the 'voluntary subscriber democracy'. The membership was mainly drawn from the middle class and most societies were dominated by the elite of that class. Money was collected from members and the activities were organized by a committee of officers elected by the subscribers at the annual general meeting. One subscription, one vote was the rule and uncontested elections the normal practice. In general, this led to rule by an oligarchy selected from the higher-status members of the society.[34] The president was often a high-status local leader, often a local industrialist or landowner; the secretary was usually a solicitor and the treasurer a local banker or merchant. The committee consisted of a number of hard-working regular attenders. It usually also tried to secure the patronage of the aristocracy. 'Such an arrangement was the perfect compromise between middle-class people striving for self-respect and independence, and the reality of hierarchical

[32] Morris, 'Clubs, societies and associations', pp 411.

[33] 'Records of Local Clubs and Societies of the eighteenth and nineteenth centuries' *Archives* 4 (1950), pp. 36-7.

[34] Morris, 'Voluntary societies', p. 96.

society with its massive inequalities of wealth and power, even within the middle classes.'[35]

The activities of these societies were organized around the local community, but most were related in various ways to national movements, groups or identities. Members, subscribers and money generally came from one town, district or county, and funds were usually spent on activities in that area. The link to national movements might be direct as in the case of the Bible and missionary societies, which were branches of the London-based organization. The Edinburgh Society looked to London to train and supply teachers. Other societies lacked this formal national network, but were aware that they were following the example of others. The Edinburgh Society for the Suppression of Beggars referred to the example of Bath, whilst the Newcastle Society for the Suppression of Vagrancy and Mendicity, founded in 1831, quoted examples in Bristol, Cheltenham and Bath.

Wider national identities were often strengthened by a periodical literature, like the *Mechanics Magazine* or the *British and Foreign Temperance Intelligencer*, which grew around many societies and gave the local reader-subscriber the sense of being part of a national movement with interests in common.[36] The societies were networks of people in similar situations, solving similar problems and fulfilling similar needs independently but conscious of each other's existence.[37] The societies were also integrative agencies because many of them excluded contentious items from their rules. Most literary and philosophical societies, for example, forbade the discussion of politics or religion. Furthermore, unlike the voluntary societies of the twentieth century which tend to act as pressure groups upon government in addition to

[35] Morris, 'Clubs, societies and associations', p. 413.

[36] *Ibid.*, p. 414.

[37] Morris writes that this was partly responsible for 'creating those forms of social consciousness - class and status, sectarian, party, occupational and national loyalties - which occupied the attention of men and women in the nineteenth century. The structure of the voluntary society network served and exploited local community and urban identities and at the same time moulded them into national identities.' *ibid.*, p. 414.

promoting their own social activities, the major societies of this period were designed to achieve their aims without reference to government aid or authority.[38]

In some respects, the creation of these societies also reflected the intellectual ferment that was taking place in society at large. They highlighted the isolation felt by the intellectually and more particularly, the scientifically inclined. They became meeting places for the sharing of mutual interests or 'embryo clubs'. One such significant organization was the Lunar Society of Birmingham (c. 1765-1791), so called because it met monthly around the time of the full moon so that members could have some light on their way home.[39]

The voluntary societies were also useful for adapting to new needs and relationships in situations where there was no relevant system of values or, even more confusing, inappropriate or contradictory sets of values. The great merit of the voluntary society for a social group unsure of itself or divided was that joining entailed a very limited commitment, quite unlike, for example, supporting or accepting an item of legislation. These societies also have the enormous potential for enabling a society experiencing rapid and disturbing change to adapt to that change, to experiment with and devise new ideas. Such societies are a means of asserting status for those without the established institutions and networks of state power.[40] This is reflected most clearly in the case of the Irish and Scottish societies formed in the eighteenth century.

There was an observable pattern of societies in both the metropolis and the provinces. N.T. Phillipson provides a useful summary:

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[38] Morris, 'Voluntary societies', p. 96.

[39] Early members included William Small (credited as the founding father), Matthew Boulton, Erasmus Darwin, Thomas Day, Richard Lovell Edgeworth, James Keir, James Watt, Josiah Wedgwood, John Whitehurst and William Withring. Later members included Joseph Priestley, Samuel Galton, Jnr., Jonathan Stokes and Robert Augustus Johnson: R.E. Schofield, 'Membership of the Lunar Society of Birmingham' *Ann. Sc.* **12** (1956), p. 136. For further reading on the Lunar Society, see *idem.*, *The Lunar Society of Birmigham: A Social History of Provincial Science and Industry in Eighteenth-Century England* (Oxford: 1963).

[40] Morris, 'Clubs, societies and associations', pp. 400, 415.

> We can see societies of men of letters, recruited from the local professions, closely linked with the mercantile or landed oligarchies, meeting in assembly rooms, university classrooms, Masonic lodgings, coffee-houses, salons and taverns, founding and patronizing academies, debating societies, theatres, libraries, and publishing houses. In so doing, we can see them seeking in some sense to improve themselves, and the wider society for which they felt responsible by acquiring a code of values that would encourage them to improve though not transform their world, that would provide them with a cultural style to identify them as a modern-minded elite, firmly established in the government of their province yet linked to a wider world by a shared, cosmopolitan scale of values.[41]

2.3 Irish and Scottish societies

Scotland in the eighteenth century, and most critically Edinburgh, needed to adapt not only to the spread of capitalist and commercial relationships but also to the loss of government entailed by the Act of Union of 1707. Scotland was a nation within a nation. Edinburgh was a capital city without a government.[42] In Ireland, appalling economic conditions in the eighteenth century, following a series of restrictive enactments initiated by the English Parliament against the Irish cattle trade and the woollen industry, and the subordination of the Irish Parliament to English interests had the effect of reawakening a sense of self-interest which approached nationalism. The clubs and societies formed during that period had the function of providing an identity and the opportunity for self-improvement and self-reliance.

The eighteenth century was an age of improvement for Scotland. The spirit of the century was one of 'self-conscious and self-directed striving for a new Scotland, a Scotland productive in every realm: in art, in industry, in medicine in science, and

[41] 'Culture and Society in the eighteenth century Province: the Case of Edinburgh and the Scottish Enlightenment' in L. Stone (Ed.), *The University in Society, Vol. 2* (Princeton: 1974), p. 407.

[42] Morris, 'Clubs, societies and associations', p. 400.

above all in learning.'[43] The impulse toward improvement began in 1661 when the Scots Parliament passed an *Act for Encouraging Trade and Manufactures*. In 1706, Daniel Defoe began to publish his plans for the improvement of Scottish agriculture, manufactures, mining, fisheries, shipping and trade in his *Review*. Defoe was in Edinburgh as a secret agent of the British Prime Minister. His mission was to urge the Scots to agree to a political union with England, which they did with some reluctance on 1 May 1707. The Act of Union promised both commercial and political improvements, the chief argument for the Union was the commercial and advantages that were bound to accrue when Scottish merchants were permitted to trade freely with the English.[44]

By the time the *Review* closed in 1713, however, Defoe was criticizing the English for not fulfilling the promises they had made at the time of the Union to help the Scots better their economic conditions. The first twenty years of the Union was a period of economic depression and great political uncertainty. Capital flowed south to be invested in more lucrative English ventures and the Scottish textile industry was severely dislocated by intensive Englsih competition. In short, the economy as a whole remianed as depressed after the union as it had been before.[45] Defoe claimed that the English knew nothing of Scotland's potential and tended to think of her as 'poor, barren, *Scotland!*; where there is nothing to be had, but wild Men, and ragged Mountains, Storms, Snows, Poverty, and Barrenness.'[46] According to Defoe, the only thing that held up Scottish agriculture was the 'Want of Application'. He believed that with a little help form '*English* Farmers, *English* Graziers, and *English*

[43] D.D. McElroy, *Scotland's Age of Improvement: A Survey of the Eighteenth Century Literary Clubs and Societies* (Washington: 1969), p. iii.

[44] H.W. Thompson, *A Scottish Man of Feeling: Some Account of Henry Mackenzie, Esq. of Edinburgh and the Golden Age of Burns and Scott* (1931), pp. 3, 6.

[45] Phillipson, 'Culture and society', p. 420.

[46] Quoted in McElroy, *Age of improvement*, pp. 5-6.

Husbandmen', Scottish agriculture would flourish.[47] Defoe's writings were dominated by the theme, 'Wake, Scotland, from thy long lethargic dream.'[48]

Defoe was not alone in advocating such ideas. Many men at this time entertained ideas for improving Scotland. They were the new elite of literati whose members were drawn from the legal profession, the kirk and landed society. This literati was developing as a modern-minded elite, anxious to provide a disorientated, leaderless society with a new identity.[49] One of the things that most wounded these men was the existing pattern of relationships with England, which seemed unable to stimulate the sort of economic growth that was promised at the time of Union: 'Unless something was done to stimulate economic growth, Scotland would become increasingly dependent upon the movements of the English economy and upon the whims of the English court.'[50]

They came to the conclusion that improvement should be directed towards the creation of a self-sufficient economy in which Scottish producers and manufacturers would provide for all the needs of their countrymen:

> [They believed] that Scotland, like Holland, France, or England was a nation destined for greatness, able to fulfil her destiny as a great trading nation by creating a formidable manufacturing and trading economy capable of satisfying both domestic and foreign markets.[51]

As a result of this improving spirit, Scotland very early took the lead in innovating a very influential type of economic organization, the agricultural society. It is claimed that The Honourable Society of Improvers in the Knowledge of Agriculture in

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[47] *Ibid.*, pp. 5-6.

[48] From his long poem, *Caledonia: A Poem in Honour of Scotland and the Scots Nation*, quoted *ibid.*, p. 5.

[49] Phillipson, 'Culture and society', p. 435.

[50] *Ibid.*, p. 418.

[51] *Ibid.*, pp. 414-5.

Scotland was the first agricultural society to be established in Great Britain.[52] It was founded on 8 June 1723 in Edinburgh by a group of noblemen and gentlemen which comprised the Duke of Atholl, the Duke of Hamilton, the Earl of Stair, the Earl of Hopeton, the Earl of Islay, Lord Cathcart, Sir John Dalrymple of Cousland and Mr Hope of Rankeilor. At this meeting, the Duke of Hamilton persuaded the members to give up 'drinking foreign Spirits that thereby the distilling of our Grain might be encouraged, and the great Sums annually sent to France for Brandy, generally smuggled, might be kept at home.'[53] They were very concerned with the backward state of the 'manufactures' in Scotland and with 'how much the right husbandry and improvement of ground is neglected, partly through the want of skill in those who make a profession thereof, and partly through the want of due encouragement for making proper experiments or improvements.'[54] Gentlemen members paid a crown at entry and a crown yearly thereafter. Craftsmen, farmers and gardeners were admitted *gratis* in exchange for their practical advice. By the 1740s, there were three hundred members which included some of the most eminent Scotsmen at the time from both the nobility and gentry.[55]

The Society appointed a committee of twenty-five, half to be resident in or around Edinburgh. The committee was instructed to correspond with the most intelligent in the nation on the different ways of managing the land and put their thoughts on the various subjects of agriculture in writing to the Society 'that what may be amiss may

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[52] E.R.A. Seligman & A. Johnson (Eds.), *Encyclopaedia of Social Sciences* (London: 1930), article on 'Agricultural Societies'.

[53] R. Maxwell, *Select Transactions of the Honourable the Society of Improvers in the Knowledge of Agriculture in Scotland* (1743), p. v, quoted in McElroy, *Age of Improvement*, p. 8.

[54] Quoted in A. Ramsey *History of the Highland & Agricultural Society of Scotland: with Notices of Anterior Societies for the Promotion of Agriculture in Scotland* (Edinburgh: 1879) p. 19.

[55] McElroy counted 'three Dukes, two Marquis, twenty-one Earls, a Viscount, twenty-three Lords, forty-five Knights, two Lord Presidents of the Session, two Barons of the Exchequer, eleven Senators of the College of Justice, three Lord Provosts of the City of Edinburgh, the Lord Lyon, a Brigadier General, three Colonels, two Captains, two Professors of Law, fifty Advocates, ten Writers to the Signet, a Professor of Mathematics and two other mathematicians, a Professor of Anatomy, seven MD's, two booksellers and three merchants...three gardeners and an "ingineer" (*sic*)'. *Age of improvement*, p. 8.

be connected, and what is profitable imitated.' The members were asked to send in reports on how they managed their farms and to form small societies of gentlemen and farmers in their respective counties. According to McElroy, the society 'was a big success, and it was afterwards much imitated'.[56]

The Society's encouragement of the home industries was evident when at one meeting, it passed a resolution that its members, their wives and children 'should buy no linen for shirting, wearing cloaths, bed-linen, table-linen, or any other household furniture [unless they were] manufacture[d in] Great Britain.' The man behind this was the Duke of Hamilton.[57] The resolution was sent to all the members and the Secretary was directed to 'insert the same in the newspapers' Apparently, the resolution was observed for a time for '- even at public assemblies of persons of the greatest distinction, the whole company appeared dressed in linen of our own manufacture.'[58]

While the Society sought to stimulate investigation in agriculture, they did not offer premiums. 'The chief service rendered by the Society of Improvers was in the shape of advice to its members as to the best mode of improving their lands.' For example, Sir Archibald Grant of Monymusk asked the Society how to manage a piece of grass land he had which he could not pasture because of young trees and hedges set around it. Without going into any detail here, the Society recommended turnip culture. However, it is interesting to note that in answering Sir Archibald's queries, the Society referred to the existence of 'the Irish Society, set up lately in imitation of ours.'[59] The Society of Improvers became defunct at the time of the Jacobite rebellion in 1745.

Other societies which followed included the Select Society of Edinburgh. Founded on 22 May 1754 by a group of the literati led by Daivd Hume and Adam Smith, the

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[56] *Ibid.*, pp. 20, 8.

[57] *Ibid.*, p. 22. This was James, the 4th Duke of Hamilton and the 1st of Brandon.

[58] Ramsey, *History of the Highland*, pp. 22-3.

[59] *Ibid.*, pp. 23, 21.

Select Society was basically an academic debating society. They set out to discuss questions about social structure and social progress. They also debated more specific issues related to current progress of Scotland, problems of agricultural and economic improvement, and legal and political reform. Within a year of its foundation, the Society had become the patron of what was nothing short of a campaign for the general improvement of Scottish society at large. On 7 April 1755, they set up the first of what was to be a constellation of subsidiary societies, called the Edinburgh Society for the Encouragement of Arts, Sciences, Manufactures and Agriculture. Apparently, it was modelled on 'a similar Dublin establishment', the Dublin Society. Under the directorship of the Duke of Hamilton and Lord Kames, an elaborate system of committees, prizes and medals were established to encourage a number of projects. [60]

In 1783, the Highland and Agricultural Society was founded. A Royal Charter was granted in 1787 and the Society expanded rapidly. Sir John Sinclair obtained Government financial assistance for the Society that allocated funds for the awards of prizes and grants for discoveries and inventions. By 1821, its membership numbered well over a thousand and it published its *Transactions* and held annual shows from 1822 onwards. At first these were in Edinburgh but became peripatetic after 1829 when the Society visited Perth. The founders of the Royal Agricultural Society in England took considerable inspiration from the activities of the Highland and the first ever first prize the RAS awarded for an essay was one on the achievements of the Highland.[61] The Royal Yorkshire Agricultural Society also fashioned itself largely on the Highland although the two were to fall out in later years.

During the first half of the eighteenth century, Scotland, and especially Edinburgh, was quite typical of a more general national trend and 'societies were formed by men who got together to exchange ideas and to encourage one another to improve

[60] Phillipson, 'Culture and society', pp. 444-5.

[61] Ramsey, *History of the Highland*, pp. 104-31. The RAS prize-winning essay was John Dudgeon's 'Account of the Improvements which have taken place in the Agriculture of Scotland since the Formation of the Highland Society' *J.R.A.S.E.* **1** (1840), pp. 59-112.

anything they felt needed improving, be it manners, agriculture, Christian knowledge, polite conversation, public speaking, or authorship.'[62] There were societies for the Reformation of Manners, for Propagating Christian Knowledge and the Speculative Society, the Dialectic Society, the Philosophical Society and the Royal Medical Society. These societies illustrate that the prevailing mood of the day was the desire for improvement. The Scots saw in the formation of societies a method of accomplishing this improvement. The societies also provided the members with a means of asserting their identity and with a means of compensating for the fragmentation and loss of status that it had suffered at the time of the Union:

> [These societies were] a self-conscious [response] to the problems posed by economic development and the need to relate in a dignified and effective manner to the powerful and dominant partner of the Union of the two kingdoms. These societies that were in part of a wide and varied network provided an identity for the aristocratic and commercial city of Edinburgh and for an elite without a court which sought status and legitimacy.[63]

The opening of the eighteenth century marked a very distinct era in Irish history. The sons and grandsons of English planters of a preceding century were now firmly established as the new ruling class. This new generation of Anglo-Irish, part rulers and teachers of a new Ireland, regarded their inheritance in no way as a mere colony but as a kingdom of equal status with England. Young men like Samuel Molyneux and Jonathan Swift, and later Thomas Prior, George Berkeley, Samuel Madden, Edward Synge and Arthur Dobbs, were keenly interested in the economic and social well-being of their country. Their interest was that of intelligent and patriotic men who saw no reason why Ireland should not share and enjoy the full economic status of a free nation instead of one subordinate to the rulings and directions of an English Privy Council.[64]

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[62] McElroy, *Age of improvement*, p. 10.

[63] Morris, 'Clubs, societies and associations', p. 401.

[64] D. Clake, *Thomas Prior, 1681-1751: Founder of the Royal Dublin Society* (Dublin: 1951), pp. 6-7.

Berkeley and his young friends conceived themselves 'as leaders of a nation about to be reconstructed' and allied to this new-born nationalism was a liberalism nurtured by such contemporary writers as Locke.[65] Some years earlier, William Molyneux had introduced Locke's *Essays* into Trinity College and had founded a philosophical society modelled on the Royal Society at about the same time. The Philosophical Society broke up during the wars but was re-established in 1706. Prior appears to have been a member along with his friends, Berkeley, Madden, Synge and Samuel Molyneux. It is interesting that these men were later joined again as founders and early members of the Dublin Society.

During the second decade of the eighteenth century, the short-sighted policy of the British Parliament served only to intensify the spirit of nationalism among the more public-spirited Anglo-Irish. Year by year they saw the legislative power of the Irish Parliament being whittled away, and the economic state of the country growing steadily worse. Men like Swift, Prior and their contemporaries were disturbed by what they saw and were anxious to improve things in Ireland, not by political action, nor by agitation, but by encouraging the people to improve their standard of life by efficient use of the country's resources.

The wretchedness of the country led some to voice their discontent. The first 'nationalist' pamphlet was conceived by William Molyneux. His *Case for Ireland Stated* was a constitutional and historical essay arguing against the encroachment by the English on the Irish Parliament. Apparently, it was ordered to be burnt by the hangman when it was published in 1698.[66] In 1720, Swift wrote *A Proposal for the Use of Irish Manufactures* where he urged the people to reject and renounce 'everything wearable that comes from England' and thus helped to provide employment for the people.[67] The printer was prosecuted. The presiding Chief Justice

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[65] J.M. Hone & M.M. Rossi, *Bishop Berkeley: His Life, Writings and Philosophy*(1931), p. 30.

[66] T. De Vere White, *The Story of the Royal Dublin Society* (Tralee: 1955), p. 2.

[67] J. Nicholls (Ed.), *The Works of Swift* (1812), quoted in Clarke, *Thomas Prior*, p. 13; A. Webb, *A Compendium of Irish Biography Comprising Sketches of Distinguished Irishmen, and of Eminent*

Whitshed was so partial that nine times the jury returned a verdict of not guilty, nine times he sent it back. So unpopular were the proceedings that it became necessary to enter a *noelle prosequi*, and the printer was discharged.

> Public opinion was slowly gathering strength and finding enthusiastic adherents among the younger men...In the movement for legislative and economic independence, Swift was the leader and his bitter but brilliant pamphlets stirred the people, and encouraged the younger men if not to emulate him, to at least take a more active interest in their country's well-being.[68]

In 1729, Thomas Prior followed Swift with his *List of Absentees*, Arthur Dobbs with *Trade and Improvement of Ireland* also in 1729, Bishop George Berkeley with *The Querist* in 1735, Samuel Madden with *Reflections and Resolutions Proper for the Gentlemen of Ireland*.[69] Some of these made proposals for improvement while struggling to reconcile the betterment of Ireland with the interests of England. While recognising the injurious effects of English policy in Ireland, they maintained their loyalty to the British Crown and government:

> The nationalist movement was not intrinsically speaking. separatist or radically Anti-British; it was, as conceived by Swift and Berkeley, constitutional and constructive within the law; but it was definitely directed against the unenlightened policy of viceroys and commercial magnates to whom the Irish government meant keeping 'poor Ireland' poor.[70]

Persons Connected with Ireland by Office or by their Writings, (Reprint Edition. New York: 1970), p. 509.

[68] Clarke, *Thomas Prior*, pp. 13-4.

[69] De Vere White, *Story*, p. 3; Webb, *Compendium of Irish Biography*, pp. 152, 321, 447.

[70] A.A. Luce, *The Life of George Berkeley, Bishop of Cloyne* (1949), p. 190.

In *A List of Absentees*, Prior advocated a tax on absentees who lived abroad but who drew an income from Ireland. [71] Berkeley's name appears in the second edition published in the same year as an absentee drawing an income of £900 per annum. Prior computed that a sum of more than £600,000 was sent out of the country yearly, a sum of money that could have been more usefully employed in impoverished Ireland. He argued that if these members of the nobility and gentry did not desert Ireland and spend their money abroad, the Irish people would not be left without employment and forced to leave the country to seek a livelihood elsewhere.[72] In the second part of this pamphlet, Prior advocates the establishment of Irish industries. Despite restrictive enactments, Prior saw no reason why the woollen industry should not be employed to the fullest to clothe the Irish people; he even suggested the use of woollen shrouds to clothe the dead.[73] He also lists a number of items that could be produced in Ireland such as flax, which would increase the manufacture of linen (to be used instead of imported silks); and madder, which would save importing some 5,000 pounds annually from Holland.[74]

Prior forwarded a copy of his pamphlet to Berkeley, who at the time was deeply immersed in his American college scheme. Writing from Rhode Island in 1730, Berkeley remarked that Prior's proposals for the tax 'seems very reasonable and I wish it may take effect, for the good of the kingdom, which will be obliged to you whenever it is brought about' and his 'hints for setting up new manufactures seems reasonable, but the spirit of projecting is low in Ireland.'[75]

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[71] *A List of Absentees of Ireland and the Yearly Value of their Estates and Incomes spent Abroad, with Observations on the Present State and Condition of the Kingdom.* Clarke refers to the *List of Absentees* as Prior's most important work and one of the most significant contributions to the economic history of Ireland, *Thomas Prior*, p. 21.

[72] Prior proposed a 'tax of four shillings in the pound on the estates of Absentees', quoted *ibid.*, p. 19.

[73] There had been an Elizabethan statute which required all corpses be clothed in woollen strounds but perhaps this did not include the Irish.

[74] Clarke, *Thomas Prior*, pp. 20-1.

[75] Berkeley, quoted *ibid.*, p. 17.

The economic distress of the Irish people, consequent upon the decline of Irish industry and tillage, were a clear call to practical thinkers and intelligent coterie of patriots who had discussed and written about these conditions. They had suggested means of ameliorating them but as nothing had been done, it became increasingly necessary that they should restore the country's economy by establishing new industries and interesting people in a more balanced and up-to-date agricultural system. On 25 June 1731, fourteen men met in the rooms of the Philosophical Society in Trinity College and unanimously formed the 'Dublin Society, for improving Husbandry, Manufactures and other Useful Arts'. They were:

Judge Ward	Arthur Dobbs
Sir Thomas Molyneux	Dr Magnaten
Thomas Upton	Dr John Madden
Dr Stephens	Dr Le Hunte
John Pratt	Mr Walton
Richard Warburton	Thomas Prior
Rev Dr Whitcomb	William Maple

Ward was a Member of Parliament for County Down and has been described as being 'on the Irish side'.[76] He later became a Justice of the King's Bench. Thomas Molyneux, F.R.S., brother of William Molyneux was a professor of physics at Dublin University and the friend of Boyle, Evelyn, Newton, Dryden and Locke. Arthur Dobbs, a Member of Parliament, was instrumental in carrying through an Act for enclosing waste land and planting trees. His economic pamphlets were held in the same regard as those of Swift, Prior and Madden and he strongly advocated an improved system of land tenure in Ireland[77]:

> They were not politicians; they did not preach disloyalty nor attack the government. They took these things as they found them and devoted

[76] *Ibid.*, p. 25.

[77] *D.N.B.*; Webb, *Compendium of Irish Biography.*

> themselves to the public interest and welfare, aiming especially at educating the farmers in farming, and the industrialists in industry.[78]

The newly formed Society held fortnightly meetings and at the first election of officers, the Lord Lieutenant, the Duke of Dorset was made President. The vice-president was Primate Boulter; Arthur Sheppard was appointed Treasurer; the Secretary of Home Affairs was Dr Stephens; Secretary of Foreign Affairs, Prior; and William Maple was elected Curator and Registrar. Almost from the outset, a Committee for Arts and Library was established so that all books and journals likely to contain useful knowledge and information should be purchased. In September 1731, it was decided that Jethro Tull's *Horse-Hoeing Husbandry* should be printed for use in Ireland. As a result, two thousand copies were printed and distributed throughout the country. In 1740, the Society adopted the Revd Samuel Madden's plan for awarding premiums and by 1753 it could afford to offer premiums to an annual value of £852, to which Madden himself promised a further £231.[79] In England, William Shipley made use of the example of the Dublin Society when he was formulating his scheme for the Society of Arts that he founded in 1754.

In its early days the Dublin Society filled a practical niche in the otherwise arid history of the period. It instilled in the hearts and minds of the more progressive landowners a sense of responsibility and duty to the land of their birth. It was this generation of nationally minded and public-spirited Anglo-Irish who felt the need for independence from the English Parliament and the Dublin Society was established by Prior and his associates in this spirit of self-reliance.

2.4 AGRICULTURAL SOCIETIES: THE FIRST PERIOD, 1754-1799

In England, the agricultural societies were established in the belief that they provided the best chance of making the advanced farming practice known to the entire agricultural community, from the great landowner down to the agricultural labourer. They were dedicated to the improvement of agriculture and rural conditions and were

[78] Luce, *Life of Berkeley*, p. 191.

[79] H. Berry, *A History of the Royal Dublin Society* (1915), p. 55.

important in bringing new information into the areas within which they operated. Equally, they were also dedicated to generating ideas within their membership circles and diffusing the information acquired.[80] Significantly, when the semi-official Board of Agriculture was formed in 1793, it recognized the agricultural societies as essential to the success of its work. They would be 'points of intercourse between the Board, which ought to be considered the fountain head of all theoretical knowledge, and the common country farmer who reads nothing.'[81] In this way, the agricultural societies played a key role in circulating agricultural information that contributed to the agricultural progress in that age.

There are several reasons for the proliferation of these agricultural societies from the 1750s onwards.[82] It was the same set of social and economic developments that brought the agricultural societies into being and gave them a similar, if not common agenda. In general a somewhat hard-headed approach prevailed, as the landowners' interest and concern for their estates spilled over into a passion for land improvement.[83] At this time, when interest in agricultural improvement was growing rapidly, the foremost duty of the landlords was the care and development of their estates and the encouragement of better farming by their tenants. Thus, the problem of educating the ordinary farmer occupied the minds of the improving landlords. These agricultural societies provided a means by which to break down the resistance to innovation always to be found in the countryside.

Beyond their sense of patriotism, the landlords were also motivated by profit when they established and participated in the activites of the agricultural societies. A contemporary writes in 1806:

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[80] Fox, 'Local farmers' associations', p. 43.

[81] A. Young, 'General Enclosure', *Ann. Agric.* **38** (1801), p. 214.

[82] The reasons for the eighteenth century enthusiasm for agricultural improvement, see ONE.

[83] P. Horn, *The Rural World, 1780-1850: Social Change in the English Countryside* (1980), p. 26.

> The proprietors and occupiers of the land cannot be expected to engage in expensive undertakings, merely from the patriotic motive of benefiting the community, when they themselves must certainly incur a considerable loss.[84]

The growth of the population and the growth of urban centres in particular held out new opportunities for the landowners. The societies provided a channel through which landowners could find out about the most progressive methods of farming and thus, increase the yields and profits. R.J. Morris argues that the landlords recognized the possibilities of maximizing their profits through such collaboration:

> Whatever their reputation for heroic individuality, the [landowners] of the eighteenth century were not averse to the collective benefits of associations...Their main business was to hold regular meetings and make collective representations to the government.[85]

Nonetheless, T.H. Middleton maintains that the chief aim of the early societies was to impress upon landowners at large firstly, that agriculture was a subject worthy of study for its own sake and secondly, the duty of providing an increased supply of food for the nation. He argues that while the appeal to self-interest occurs, it was not an all-important consideration.[86] Arthur Young, writing after the traumatic loss of the American colonies noted that 'a general attention' might be given to British farming and 'the future dependence of the state may settle more on the basis of internal resources than on such experience has proved to be insecure'.[87] Perhaps the best way of summing up the motives of the landowners is to state that they were driven by patriotism as well as profit.

The earliest proposal for a national institution to advance the cause of agricultural progress appears to have been made by Samuel Hartlib in 1651, although the

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[84] 'Cultor', 'Essay on Premiums' *F.M.*, 7 (1806), p. 276.

[85] Morris, 'Clubs, societies & associations', pp. 404-5.

[86] Middleton, 'Early associations', pp. 727, 729

[87] *Ann. Agric.* (1784).

suggestion seems to have been to found a residential agricultural college rather than an institution of the type reviewed here.[88] The Royal Society was the most respected and senior society at the beginning of the eighteenth century. In 1664, the Society founded a 'Georgical Committee' that attempted to compile a 'History of Agriculture and Gardening'. To this end, it drew up a list of 'enquiries' which were to be sent 'experienced Husbandmen in all the Shires and Counties of England, Scotland and Ireland' and intended to elicit information on the best practice of agriculture in different parts of the country.[89] The results of these enquiries were published in the *Philosophical Transactions* where the they might be 'more universally known' and persons might be 'publickly invited to impart their knowledge herein, for the *common* benefit of their Countrey.'[90]

While the Society managed to achieve some results, its effort in collecting descriptions of agricultural practices was largely a failure. This was due to inadequate response. Few landowners and farmers of the Restoration period would have possessed either the ability or the inclination to satisfy the curiosity of the scientists by making adequate replies to the questionnaire presented to them.[91] Nonetheless, the scheme reveals an appreciation of the value of the comparative method and was a brave attempt to link up book-learning and scientific research with the experience of practical farmers. The early agricultural survey of the Royal Society was 'a striking example of that alliance of science and industry which was characteristic of the age'.[92]

The Society also attempted to establish the potato. The potato had been introduced into England by Sir Francis Drake in 1585. However, it attracted so little attention that in 1663, the Royal Society urged its Fellows who possessed land to plant potatoes, and to persuade their friends to do the same, to alleviate the distress that

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[88] E. Clarke, 'The foundation of the Royal Agricultural Society', *J.R.A.S.E.* **9** (1890), p. 2.

[89] R.V. Lennard, ' English Agriculture under Charles II: The Evidence of the Royal Society's "Enquiries"', *Ec. Hist. Rev.* **4** (1932), p. 24.

[90] *Phil. Trans.*, **5** (1665).

[91] Walter Blith called them the 'mouldy old leavened husbandmen' and accused them of 'callumniating and depraving every new Invention', Lennard, 'English Agriculture', p. 28.

[92] *Ibid.*, p. 23.

would accompany a scarcity of food. Nothing appears to have come of this recommendation.[93]

After an initial period of activity, the Royal Society underwent a decline and towards the end of the seventeenth century, suffered from poor administration and shaky finances.[94] After reorganization, it became more concerned with theoretical speculation and during the first half of the eighteenth century, there was no national institution in England concerned with agricultural improvement until William Shipley founded the Society of Arts in the middle of the eighteenth century.

The Society of Arts was founded in 1754 and agriculture was one of its chief concerns until around 1830. The essential part of its objective was to offer premiums for the growing of new crops, new methods of husbandry and stock breeding, improved implements and in the nineteenth century, information on manures and soil analysis.[95] The value of the Society's work is evident in the contemporary testimony of Arthur Young. 'It is probable' he writes, 'that the kingdom has been benefited a thousand pounds for every guinea these men have expended.'[96] Arthur Young was a member of the Society from 1769 till his death in 1820 and in 1774, he became Chairman of the Committee on Agriculture.[97] Although Young praised the Society for offering premiums for agricultural improvement, he pointed out that the most important defect in the work of the Society was lack of a suitable publication for the

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[93] S.T. Davenport, *A Glance at the Past and Present of the Society of Arts with some Suggestions as to the Future* (1869), p. 6.

[94] Sir H. Lyons, *The Royal Society, 1660-1940* (1940), p. 118.

[95] For the foundation and of the Society, see THREE (3.1) and for the Society's promotion of agricultural improvement, see FOUR (4.2).

[96] *Ann. Agric.* **1** (1784), p. 65. Young also commended the Society's work in the third edition of his *Farmers' Letters*, (1771).

[97] J.G. Gazley, 'Arthur Young and the Society of Arts' *J. Econ. Hist.*, **1** (1941), pp. 129-152. Young himself won four of the Society's premiums; £5 in 1765 and in 1767, for cultivating an acre of madder according to the Society's specification, a gold medal in 1768 for the 'best account of a Method of Rearing and Fattening Hogs' and a silver medal in 1779 for a 'Treatise on the Culture, Produce and Application of the Clustered Potatoe', R.S.A. Committee Report Books, (1764-5), 36, (1766-7), 9; R. Dossie, *Memoirs of Agriculture*, **II** (1771), p. 201; R.S.A. *Trans.* **III**, p. 30.

diffusion of information: 'Premiums undoubtedly are of great benefit, when properly bestowed, but I may venture to say that they are not attended with a tenth part of their good effects, unless the results of them are published.'[98]

The following paragraph taken from Smollett's 1771 work, *Humphrey Clinker*, demonstrates the extent to which the Society of Arts and its activties had already assimilated into the contemporary culture at this date. Squire Bramble's nephew, Melford, writes to his friend and correspondent, Sir Watkin Phillips, about his adventures on his visit to London:

> We are become members of the Society for the encouragement of Arts and have assisted at some of their deliberations, which were conducted with equal spirit and sagacity. My uncle is extremely fond of the Institution, which will certainly be productive of great advantages to the public, if from its democratic form, it does not degenerate into cabal and corruption.[99]

The foundation of the Society of Arts also gave rise to many local imitators, one of the earliest being the Brecknockshire Society founded in 1755. It was originally established as a monthly hunting club for gentlemen:

> [However] foreseeing [that it] could answer no end, at best, but jollity and Noise...made an immediate and happy Transition, forming themselves into what they are now A Society for encouraging Improvements in Agriculture and Manufactures and for promoting the general Good of the Country.[100]

The intriguing question is who and what caused the members of the club to change their activities from one of pleasure to more serious and public-minded matters. Credit for this is due to Charles Powell, a Welsh philanthropist who was also a

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[98] For Young's persistent efforts to get the Society of Arts to publish its own journal, see FOUR (4.2). *Farmers' Letters*, pp. 211-253.

[99] T. Smollett, *Collected Works, Vol. 7* (1872), p. 161, quoted in Wood, *History*, p. 18.

[100] C. Powell to Society of Arts, 2 April 1756, R.S.A. Guard Book 1, 3.

member of the Society of Arts. In the spring of 1755, Powell had obtained Shipley's advice about establishing an agricultural society in Brecknockshire and Shipley had sent him the rules and orders or the Northampton Philosophical Society and other 'Hints as were of some service.'[101]

The first step was taken in March 1755 with an inaugural meeting where Powell proposed that 'something should be done to benefit the county'. This was seconded and the 'Brecknockshire Society, formed for the encouragement of Agriculture, Manufactures and promoting the general good of the county' was formed. Of the eighteen who attended this meeting, the majority were landowners with a sprinkling of clergy and men of business. [102] The influence of the older Society of Arts is clear. Like the national society, the newly formed Brecknockshire Society also offered premiums for agricultural improvement. Premiums were offered for crop husbandry, land improvements, and farm servants and from 1780 onwards, livestock.

The effects of the Society's work on the farming community in the county can be obtained from the observations made by various writers in the late eighteenth and early nineteenth centuries. Travelling through Brecon on his way to and from Ireland in 1776 and 1778, Arthur Young stayed with Thomas Longfellow[103]:

> Mr Longfellow at the Bell [Inn] at Brecon, is so good a farmer that he is the secretary to the Brecknockshire Agricultural Society, but which does not flourish so much as I wished to hear it did. They were established in 1750 and were certainly the introducers of turnips and clover, which (turnips at least) are not yet adopted by common farmers.[104]

Some twenty years later, in 1796, the Revd H.T. Payne commented:

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[101] R.S.A., Guard Book 1, 42.

[102] H. Edmund, 'History of the Brecknockshire Agricultural Society, 1755-1955' *Brycheiniog* 2 (1956), pp. 33-5.

[103] Longfellow was secretary of the Society from 1761 to 1794.

[104] Young was misinformed on the date of the Society's foundation, *Ann. Agric.* 3 (1787).

> It cannot be concealed that for some years past, the public spirit of the Society has been greatly on the Wane. Indeed I am sorry to say that at present, it may be entitled as a *Social Club* rather than an Agricultural Meeting.[105]

Shortly afterwards, in 1805, Theophilus Jones was rather more complimentary:

> The progress of the science of agriculture, though not in so improved a state as in the vicinity of the metropolis and other large cities and towns in England, has yet advanced much further in Breconshire than in neighbouring counties in the principality. This superiority we certainly owe in some measure to the establishment of the Breconshire Agricultural Society, first instituted in the month of March 1755.[106]

More significantly, soon after the foundation of the Brecknockshire Society, Powell had made a proposal to the Society of Arts for the formation of other county societies. Throughout 1755 and 1756, Powell had been in frequent correspondence with the national society, the latter evidently wishing to be kept well informed of the progress of the county society.[107] On 7 August 1755, Powell sent Shipley news of the Brecknockshire Society and expounded the benefits that would arise if similar societies were formed in other counties:

> Such a Society form'd in ev'ry County, I may venture to affirm, would make this not excepting China, one of the most flourishing kingdoms in the World, as it would draw the attention of the nobility and gentry, now too much dissipated in idle and expensive Diversions such as Cocking, Horse-racing,

[105] Quoted in Edmund, 'History', p. 38.

[106] *A History of the County of Brecknockshire* (1805), p. 302, quoted *ibid.*, p. 38.

[107] The letters of Powell to the Society of Arts can be found in R.S.A. Guard Book 1, 2, 3, 42, 51. Copies of two of Powell's letters were copied into R.S.A., Dr. Templeman's Transactions 1, pp. 66-9, 70-4. Although Powell was closely connected with the Society of Arts, he ceased to be a subscriber after 1759.

> Gaming etc., to objects truly Worthy of it - the encouraging and establishing Manufactures and the promoting Improvements in Husbandry, and consequently exciting an honest Spirit of Industry, and a laudable emulation among the lower Class of our fellow Creatures, and at the same time extirpating those Banes of Society - Idleness, Party Rage, and Narrow-mindedness, and in lieu thereof cultivating a true publick spirit, a Spirit of Universal Benevolence.[108]

Powell hoped that some 'Ingenious Gentleman of our Society in London...would consider of and improve this Hint.'[109] Shipley made an abstract of this letter and sent it to Charles Whitworth, one of the Society of Arts' vice-presidents, on 14 August. Shipley's accompanying remarks show his enthusiasm for Powell's proposal:

> I believe, Sir, if County Societies were formed according to Mr Powell's Plan and our Society had such a Correspondence as he mentions that there will be such a Circulation of Useful Knowledge throughout this Kingdom as would exceed our warmest Expectations.[110]

Whitworth replied the next day in a letter approving of Powell's plan but suggesting 'whether the same plan might not be more effectually carried on by its being All connected together under our General Head...and be Branches therefrom instead of Separate Societies for the same purpose.'[111] Shipley communicated both Powell's and Whitworth's letters to the Society on 20 August. However, while the Society voted its thanks to both correspondents and decided to seek Powell's permission to print his proposal, it did not implement either set of plans. In a letter to Whitworth, Shipley described the debate at the Society on the relative advantages of more county societies or county branches of the London Society, giving his opinion on the matter at some length:

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[108] C. Powell to the Society of Arts, 7 August 1755, R.S.A., Guard Book, **1**, 43.

[109] *Ibid.*.

[110] R.S.A., Guard Book, **3**, 20.

[111] R.S.A., Guard Book, **1**, 44.

> I think it is not at all improbable that the same Spirit of Benevolence may prevail in different Counties in establishing of Premium Societies, and I believe that if such County Premium Societies were established they would more narrowly consider articles proper to be promoted by Premiums in their own Counties than select Clubs of Gentlemen who were only Branches of a National Society.[112]

Powell gave his consent for his letter to be published by the Society. It appeared in the *Gentleman's Magazine*, where in the foreword, the founders of the Brecknockshire Society were praised for their 'spirit of true patriotism and love for the public' and other counties were persuaded to follow their example.[113]

The next provincial society was instituted in the autumn of 1777 in the city of Bath 'for the encouragement of Agriculture, Manufactures, Commerce and the Fine Arts' in the counties of Somerset, Wiltshire, Gloucester, Dorset, and the City and County of Bristol. It was simply known as 'The Society' or the 'Bath Society' since their meetings were held in Bath. In 1790, the title of the Society was altered to 'The Bath and West of England Society', because of its well-established character and the widely extended residences of its subscribers. It is most commonly known as the Bath and West.[114]

The idea of an agricultural society based in Bath was the brain-child of Edmund Rack. After all, the city of Bath in the late eighteenth century seems an unlikely birthplace for an agricultural society. It was the Bath of Beau Nash, Ralph Allen and Jane Austen. In other words, the rank and fashion seemed more interested in dress and pleasure than in ploughs and turnips. Rack was born in 1735, in Attleborough, Norfolk, to Quaker parents. A draper by trade, he had also cultivated a taste for literature. During his earlier life in Norfolk, he had become very interested in

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[112] R.S.A., Guard Book, 3, 22.

[113] 25 (1755), pp. 505-6.

[114] A Royal charter was granted in 1976.

agriculture and, in particular, in the application of modern methods to agriculture. The knowledge of arithmetic appears to be Rack's highest educational attainment and for a while, he was apprenticed to a general shopkeeper in Wymondham. At the close of his apprenticeship, he moved to Essex, and at Bardfield, became a shopkeeper. His business ambitions appeared to have been limited to making enough money to allow him a pleasant life and an early retirement. He eventually retired in 1775, at the age of forty, and moved from Bardfield to Bath where he could pursue his literary ambitions.

At Bath, Rack was struck by the poor standard of agricultural practice in the west country and wrote a series of articles on the agriculture of the district. He proposed that the establishement of a premium-giving agricultural society would be beneficial for the western counties. He wrote to the local press pointing out that it was in the interest of the farmer, the landowner and the nation in general that the agricultural resources of the country should be increased. The press proved considerably sympathetic and on 26 August 1777, an advertisement appeared in several local newspapers. Several gentlemen responded to this invitation and met at the York House where the Society was formed.

The Society was formed with a core of twenty-two gentlemen which included amongst them two clergymen, four doctors, an apothecary, a printer and publisher, and no farmer. Dr. Falconer, being a Fellow of the Royal Society, was certainly the most distinguished of the founder-members.[115] Despite the diverse professions of the founder-members of the Bath and West, they were held together by their patriotic fervour and their belief that they could improve the condition of agriculture in the western counties. At the first general meeting on 13 November 1777, the Earl of

[115] Fellowship to the Royal Society was for life and represented the highest attainment in British science. Falconer was the author of numerous books on medicine, science, religion, politics and classics. He settled in Bath after retiring from practice in London, and became Physician to the General (now Royal United) hospital. He lived in the Circus and remained an active member of the Society till his death in 1824.

Ilchester was elected President. From an early date, the Society recognized the particular importance of its wealthy gentlemen members:

> Farmers may be possessed of great natural abilities and knowledge in the common mode of their ancestors; but every farmer is not a scholar, mechanic, chemist, or philosopher. Their knowledge, and the methods they pursue in general, extend no further than that of their predecessors, or the custom of the country where they reside. Any discoveries made by them are reserved to themselves, and themselves only benefit by it; but men of ingenuous and liberal dispositions, no sooner make discoveries, then they are communicated to the public.[116]

This is because high-ranking members gave substantial contributions, financed agricultural experiments and lent the Society prestige and prominence:

> [T]he society must naturally look to those members, who from the extent of their means and possessions, have the largest scope for exertion. Such gentlemen have it abundantly in their power to give efficiently to the publick and patriotic labours of a society, whose chief business is to collect and diffuse knowledge.[117]

Premiums were the main device used to 'collect and diffuse' knowledge. The Society had taken its inspiration from the Society of Arts but was independent of it. Rack was aware that the Society gave pecuniary and honorary rewards to the 'diligent and ingenious who have excelled in the various departments of husbandry, in useful manufactures, and in the most curious specimens of art.'[118] The Bath and West adopted this plan and its first premium list was divided into three separate classes and thrity-nine premiums were offered altogether. The subjects covered were very broad and varied from cultivating turnips and beans to studying epilepsy in pigs, from

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[116] G. Winter, *A New and Compendious System of Husbandry* (Bristol, 1787), p.12.

[117] 'Introduction', *Letters and Papers,* 9 (1799), p. iii.

[118] W. Lewis, *A Century of Agricultural Progress* (Bath: 1879), pp. 29-30.

planting apple trees to introducing the manufacture of black silk lace and the invention of a machine for sowing carrot seed.[119] In the years to follow, the Bath and West was to establish a library, start an experimental farm, organize a series of lectures on chemistry and provide farmers with services for soil analysis.[120]

The next national agricultural institution to be established was the semi-official 'Board of Agriculture and Internal Improvement', distinct from the other societies because it received a government grant. The idea of a Board of Agriculture can be found in contemporary writing. Lord Kaimes had suggested it in 1766 in *The Gentleman Farmer*; and William Marshall had urged for a systematic review of existing methods in 1787.[121] However, neither Kaimes nor Marshall had worked out the fundamentals of setting up a Board. The origin of the Board was due to John Sinclair who received a grant of £3,000 a year from Pitt's government for its expenses. Sinclair received this grant because he had done the government a favour during the currency shortage and commercial dislocation of April 1793.[122] Pitt regarded this as money for services rendered, and did not see it as tying himself to the pursuit of any agricultural policy. Nor had Sinclair suggested it. In the first instance, Sinclair wanted the Board to encourage the improvement of wool production, He later widened the scheme to include other agricultural topics. The Board was to provide the farmer with full information of the best methods and 'excite a spirit of industry and experiment'; it was to encourage, co-ordinate the work of private societies, and publish information.[123] But there is no evidence of any suggestion of executive authority for such a Board, nor that it should influence government policy.

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[119] B.W., *Archives*, 2, 13 December 1777.

[120] For a detailed account of the activities of the Bath and West see FOUR (4.3).

[121] *The Rural Economy of Norfolk* (1787), p. viii.

[122] The measure adopted by the goverment of temporarily issuing five million low-value exchequer bills was Sinclair's idea. In return for this, Pitt offered him a reward, which he accepted, J. Sinclair, *Account of the Origin of the Board of Agriculture and its Progress for three years after its Establishment* (1796).

[123] J. Sinclair, *Plan for Establishing a Board of Agriculture and Internal Improvement* (1793).

Together with Pitt, Sinclair, as President of the Board, chose its thirty ordinary members from the landed gentry and aristocracy, and a number of honorary members from the more enthusiastic gentry and farmers. The members paid subscriptions of ten guineas annually, for which they received its value in publications; they could attend meetings and after 1800, join in debates. The initial thirty-one members included Thomas Coke, the Duke of Bedford, Lord Sommerville, and Lord Egremont. Arthur Young was appointed secretary with a salary of £400 a year and later, an official residence in Sackville Street, London[124]

From the outset, Sinclair seems to have regarded the Board almost as his personal property. This was not entirely unreasonable as it would not have existed without him. Moreover, the constitution he drew up for the Board made the President a central figure. He was the only member to survive from its inception to its death and tended to want to dominate the proceedings. For example, all correspondence was to be addressed to him, which led to bitter complaint from Young. While the machinery of election existed, he was astonished when it was used against him in 1798.

The Board is perhaps best known for its survey reports on the agricultural conditions of each county. Sinclair had intended for these separate surveys to lead to a general report for England. However, as he was to discover when he organized a similar work for Scotland in 1810 and 1811, the labour involved was enormous and the general report for England was never attempted. The county reports were undertaken by different surveyors appointed by Sinclair, for example, Nathaniel Kent for the

[124] The Board met on the first Tuesday after the opening of the parliamentary session. There was also a committee meeting on Friday for publications, finances and general matters. During these sessions, the Board considered a very wide range of subjects; the 'internal improvements' in its title giving it a very wide ambit which included the colonies. For example, in a typical meeting, the Board heard papers on draining bricks, fishermen's clothing, salt as manure, leases, potato-growing, machinery for handling soil analysis and machinery for handling stones, R. Mitchison, 'The Old Board of Agriculture, 1793-1822' *Eng. Hist. Rev.*, 74 (1959), p. 45.

volume on Norfolk; John Billingsley for the one on Somerset; and William Marshall for the Central Highlands.[125]

However, these surveyors were not always wisely selected and the reports came under severe contemporary criticism that reached its height in Marshall's analysis of the reports.[126] For a start, Sinclair had given the surveyors only five or six weeks for a county and expenses of £5 to £10 per week. Moreover, because of his desire for haste, he wanted the reports out by March 1794, many of the tours had to be made in winter so that the surveyor had to rely on hearsay and could not verify what they recorded. The number of surveyors involved resulted in reports that were uneven in the quality of information. Some surveyors took little interest in precise information, while others spent a disproportionate amount of their survey on one or two special hobby-horses. Arthur Young complained later in his *Autobiography* that many of the reporters scarcely knew the right end of a plough.[127] Nonetheless, this is not to rob the reports of all claims to usefulness. They are a valuable collection of information on the state of farming from 1793-1813. The reports are extensively drawn on by historians because of the lack of clear detailed alternative material. They would probably have been more useful to contemporaries if they had been better organized and written.

The one important function of the Board was the general promotion of enthusiasm and the exchange of ideas. Arthur Young described it as a meeting place of individuals and ideas.[128] It gave the improvers a sense of purpose and an outlet for usefulness. It gave them a feeling of solidarity and organization when dealing with

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[125] *General View of the Agriculture of the County of Norfolk* (1794); *General View of the Agriculture of the County of Somerset* (1794); *General View of the Agriculture of the Central Highlands of Scotland* (1794).

[126] *Review of the Reports of the Board of Agriculture on the several Counties of England* (1809-17), 5 vols.

[127] M. Betham Edwards (Ed.), *The Autobiography of Arthur Young* (1898, Reprint edition: New York: 1967), pp. 315, 376.

[128] *On the Advantages which have resulted from the Establishment of the Board of Agriculture* (1809), p. 12.

unresponsive local opinion and an unhelpful government. However, the perceived need for the Board declined at the end of the Napoleonic wars. The agricultural issue was no longer the increase of the food supply but how to prevent foreign sources from under-selling on the home market. Due to the lack of support and funds, the government had discontinued its grant, the Board was organizing its own demise in May 1822 and was gone by that July.

In assessing the Board's activities in its brief twenty-nine year existence, it has been argued that it had failed to give any marked direction to agricultural progress owing to insufficient resources.[129] £3,000 a year was not a lavish grant for an institution with a high estimate of its scope and usefulness. In its early years, the Board had operated out of a room in Sinclair's house to make the annual grant go further. However, when it rebelled against Sinclair in 1798, it took on its own house and saddled itself with expenditure in rent, taxes, repairs and a residential allowance for the secretary that averaged £530 a year. Till 1812, it also had to pay about £85 a year in fees on its grant. Thus, much of its regular income was already spent before the Board began any of its activities.

The Board also lacked the confidence of the agricultural community, which distrusted its official links, however tenuous these may have been. For example, the Board's enquiries were said to promote unrest; they made farmers believe that they would lead to increased taxation. R. Mitchison explains the dilemma of the Board's identity:

> The Board always felt that it was acting through a cloak of unfounded suspicion that it could not effectively destroy because it was simply a private body. If it was not official enough for co-operation from the departments, it was too official for many people.[130]

As Young sadly observed, the Board suffered under jealousy, suspicion and misrepresentation: 'those talents that blazed at Woburn became extinguished at

[129] Goddard, 'Agricultural societies', p. 245.

[130] 'Old board', p. 28.

Sackville Street...as if a Coke lost all knowledge of turnips and a Somerville all his skill in cattle by entering these doors.'[131] Throughout its brief existence, its status remained ambiguous; it was neither an 'administrative body, nor a voluntary society, but...an interesting and unsuccessful middle of the two.' Nonetheless, it was also 'an attempt to organize the 'landed interest'" thus making it quite typical of its time[132]

A more enduring national society was the Smithfield Club. It was established on 17 December 1798 at the great Smithfield market day before Christmas under the patronage of such men as Lord Somerville, Arthur Young, and Francis, the Duke of Bedford. The originator of the Club was John Wiles of Measham, Derbyshire and it had the special interest of stock-raising.[133] From the moment of its inception, the Club managed to secure the services of men with proven agricultural expertise. Lord Somerville was vice-president from 1814 to 1819, prior to that, he was on the first committee formed on 17 December 1798. Young was the secretary and treasurer of the Club from its foundation till 1806. The Duke of Bedford was President from 1798 until his death in 1802 when his place was filled by his brother John the next Duke, from 1802 until 1816.

The main objective was the improvement of stock in the country, particularly the encouragement of early maturity of animals, by public exhibition and premiums. Its principal activity was the annual pre-Christmas show in London, an important event for many farmers, and was enlarged to include exhibitions of crop specimens and machinery. [See *figure 2.1*] The first show was held at Wootton Livery Stables, Dolphin's Yard, Smithfield. Fifty guineas were offered as prizes. Typically, premiums

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[131] Young, *On the Advantages*, p. 10.

[132] Mitchison, 'Old board', p. 41.

[133] The question of stock-raising seems to have received scant attention from the Smithfield's precursors, the Society of Arts and the Board of Agriculture. This is all the more surprising because the experiments of Robert Bakewell had commenced at the time the Society of Arts was established and had attracted a great deal of attention from many of the enthusiastic landowners. Bakewell was the first to indicate and emphasize the necessity for proper selection in breeding. This however, seems to have been regarded as outside the Society's province.

offered were for the best sheep fed on hay, grass, turnips, or cabbages; or for the best beast fed on corn or oil cake. [134]

At an early stage, it became apparent that contemporary opinion held that the Club was established essentially to benefit the landed class. At the annual dinner of 1800, the President, the Duke of Bedford, felt it was necessary to clarify the Club's position:

> Without doubt, there are two things we should most solicitously avoid: first, most certainly not to associate to raise prices...Secondly, we ought to pursue no measure which would have even the appearance of raising prices. The only true object of the farmer is to profit, not by high prices, but by *great products*. The increase of quantity, not price should ever be his aim...This we have in our power, and I trust we shall show it in the effects of our institution; for it will be of essential service to prove what breeds of cattle there are which give most food for man, from given quantities of food for animals. This is an object worthy of any Society; and this object, I trust, will be effected by the unremitted zeal, enlightened views, and active exertions of this Society.[135]

In 1806, the show moved to Mr Sadler's Yard, Sadler's Wells, Goswell Street where it continued to be held until 1838. The Club's early record was one of steady progress. The Duke of Bedford, at the dinner in 1808, remarked on the increase in the number of beasts and sheep sold at Smithfield and the gradual improvement of their exhibits: 'These results could not have been attained but by the gradual banishment of numerous coarse and unprofitable breeds from our pastures and supplying their place with breeds disposed to early and perfect maturity.'[136]

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[134] For contemporary accounts of the early activities of the Smithfield Club, see *F.M* 8 (1807), pp. 189-92; *F.M.* 9 (1808), pp. 82-5.

[135] Quoted in Bull, *Smithfield Club*, pp. 6-7.

[136] Quoted *Ibid.*, p. 8.

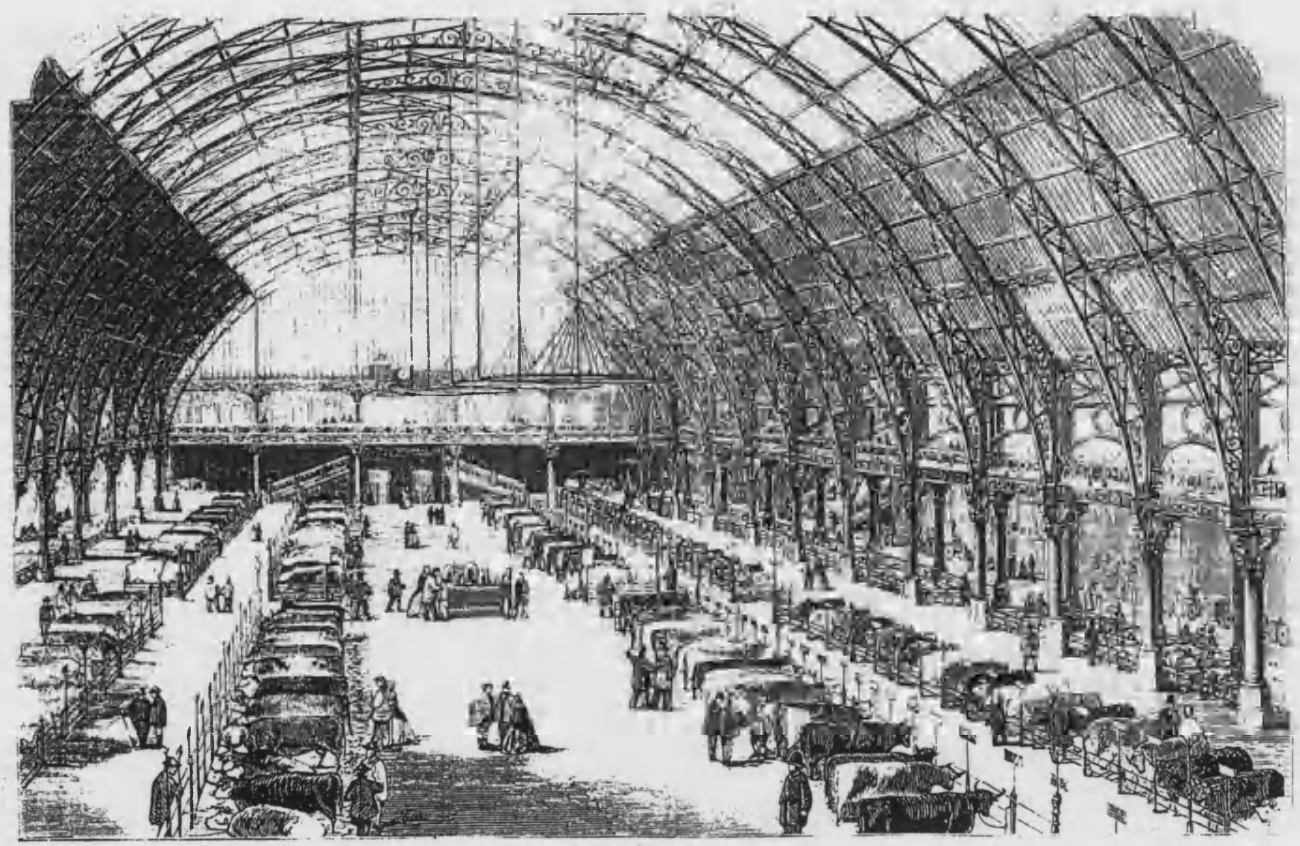

Figure 2.1 : The Smithfield Club Show.
Source : *F.M.*, **33** (1868).

A study of the successful eighteenth century societies reveals a remarkably similar pattern of development. In each case, the initial impetus had come from an individual, or a small group of people, of exceptional enterprise and public spirit. Without their energy and enthusiasm, the societies they helped to establish would almost certainly have withered away in a few years. For this reason, the life and influence of some of the early societies were limited. The Board of Agriculture only managed to last just over a quarter of a century. The Salford Society, founded in 1767, had a worthy if undistinguished committee-controlled life for half a century before merging with the Manchester Society, but the Farmers' Society of Liverpool, established in 1771, died away by the 1780s.[137] At Lewes in 1772, Lord Sheffield had established a Society for the 'Encouragement of Agriculture, Manufacture and Industry'. However, it did not survive the war with France and America. Those that persisted, like the Society of Arts, the Brecknockshire, the Bath and West and the Smithfield, pressed on in their patriotic fervour and in their belief that they could improve the condition of agriculture. The eighteenth century agricultural societies had a strong sense of social purpose and believed that they made a positive contribution towards the wealth of the nation:

> Such Gentlemen, therefore, as patronize establishments of this kind, do themselves greater honour than their modesty will permit them to see in its full lustre; and are peculiarly intitled to the thanks of their country. At a very trifling expence they become the primary means of increasing the wealth and happiness of the community, who feel, through every rank and order, the beneficial effects of every improvement that tends to increase the value and the produce of our lands.[138]

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Eighteenth century English society was extremely disposed to forming clubs and societies because of an unprecedented freedom for persons with similar interests to associate together. The timing of the formation of each society in specific places was

[137] Hudson, *Patriotism with profit*, p. 18, fn. 41.

[138] *Letters and Papers*, 2 (1783), p. iii.

influenced by two sorts of pressure: crisis and fashion. Both Scotland and Ireland preceded England in founding institutions for promoting agricultural improvement. The early Irish and Scottish societies came about as a result of the need for a national identity and a sense of self-reliance. In the case of the English agricultural societies, their establishment was a response to both socio-economic necessity and fashion. Social and economic imperatives such as a growing population meant that raising agricultural output was on the minds of the improving landlords. Furthermore, a growing urban population as the result of industrialization provided an opportunity for profit which naturally attracted the landowners. The fashionable aspect of agricultural improvement was provided by the King (George III) who was a keen agriculturist himself. Societies for improving agriculture began to appear in the eighteenth century and the founders of the societies believed that they had a positive contribution to make to the agricultural community and the nation at large:

> The truth of this observation is evident; and shews the utility of Gentlemen's forming themselves into Societies, and offering premiums for the introduction of experiments, which will secure the practical Farmer from loss in case of their failure. And many Members of such Societies being men of considerable landed property, have a sufficient income to propagate the resulting advantages in their respective neighbourhoods; and have it also in their power to make experiments which it would perhaps be imprudent for common Farmers to make at their own risque.[139]

There was a striking similarity of objectives and the methods adopted to achieve them between the agricultural societies. Primarily, the societies hoped to encourage progressive agricultural practice by offering and awarding premiums. The foundation of these societies illustrates the new improving spirit which animated farming in the latter half of the eighteenth century.

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[139] *Ibid.*, p. ii.

3. ORIGINS OF THE PREMIUM SYSTEM

When the premium system made its first appearance in the eighteenth century, it was a novel method of stimulating agricultural innovation by awarding monetary and honorary prizes for new ideas, methods and machinery. 'Premiums' or 'bounties' were the often interchangeable names used for direct rewards carrying no future privileges paid to inventors or the producers of nationally valuable economic products.[1] William Shipley, deserves credit for being the first person who successfully institutionalized the giving of premiums with the establishment of the Society of Arts.

3.1 WILLIAM SHIPLEY

William Shipley, brother of Jonathan Shipley, Bishop of St Asaph, was an obscure drawing-master at Northampton when he conceived the scheme on which he based the Society of Arts. [See *figure 3.1*] He was born in London, in 1715, to Jonathan Shipley, a native of Leeds who had settled in London at an early age, and Martha, the daughter of William Davies of Twyford, Hampshire.[2] For a time between 1734 and 1747, Shipley lived in London, where he trained to be an artist. There, he made the acquaintance of Henry Baker, a member of the Royal Society and Society of Antiquaries in London. Baker had published studies on natural history and was especially well known for his book on the use of microscopes. When Shipley told Baker that he was going to move to Northampton in 1747, Baker asked to be kept informed of any geological rarities and other 'natural curiosities' which might be discovered in the area. Shipley agreed to report on anything of interest and a correspondence was begun which lasted until Shipley returned to London in 1753.

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[1] *A New Dictionary of Arts & Sciences* [etc.]. *Vol. III* (1754) p. 2528.

[2] Wood, *History*, p. 9. According to the *D.N.B.*, Shipley was born in Maidstone in 1714. However, Wood disagreed about the place and questioned the date. He believed that Shipley was born in London in 1715. D.G.C. Allan, Shipley's biographer, confirmed this with the baptisimal registers of the united parishes of St. Stephen, Walbrook, and St. Benett, Sherehog, which record that William, son of Jonathan Shipley and his wife Martha, was christened on 2 June 1715. *Shipley*, p. 20, 136n.

Richard Cosway's portrait of Shipley, painted *c.*1759-60.

Detail from James Barry's painting *The Society* (1778) showing Shipley holding *The Instrument of the Institution.*

Figure 3.1 : **William Shipley, founder of the Society of Arts**
Source : D.G.C. Allan, *William Shipley, Founder of the Royal Society of Arts: A Biography with Documents, 2nd edition* (1979).

In Northampton, Shipley took up lodgings in a street known as The Drapery. This was in the western quarter of town and not far from the horse market. There were two very considerable fairs for horses each year at Northampton, which attracted horse dealers from all over the country. The horse fairs proved of great interest to Shipley and, observing the profitable horse trade, he enquired about the cause of the success of these fairs. He was informed that the premiums of the king's plates, and of the plates given by private subscriptions, encouraged a great number of dealers to breed race horses and import Arabian stallions. As a result, the breed of horses had considerably improved over the years and the export of race horses amounted to some £30,000 a year.

From this remarkable instance of premiums given at horse fairs, Shipley saw its potential for wider application and had the innovative brainwave of turning it into a system for stimulating specific developments:

> Mr Shipley made his sensible reflection: if such is the advantage arising to my country from these partial premiums, which in appearance seemed only calculated to promote a favourite diversion, how glorious, how extensively useful it must prove, to establish public premiums for the general encouragement of Arts, Manufactures and Commerce![3]

Although Shipley earned his living as a portrait artist in Northampton, he devoted much of his leisure time to scientific interests. In Northampton, there was a flourishing philosophical society whose members aimed at improving themselves and each other in natural knowledge. Shipley called it the 'Royal Society in miniature'.[4] They listened to papers on magnetism, electricity, mechanics, hydrostatics, pneumatics, optics and meteorology.[5] Shipley attended their meetings first of all as a

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[3] Mortimer, *Concise Account*, pp. 3-4.

[4] W. Shipley to H. Baker, 18 October 1747, John Ryl. Lib. MSS.

[5] For an example of the proceedings of the Northampton Philosophical Society, see *Gent. Mag.* (1746) pp. 475-7. See also D. Bates, 'All Manner of Natural Knowledge: the Northampton Philosophical Society' *Northamptonshire Past and Present* **8** (1993-94), pp.363-77.

guest and became a member early in 1748. While still a guest of the Society, Shipley had put forward a proposal that it should institute an annual prize medal. According to Shipley, in a letter to Baker, the Society put forward his proposal at a meeting on 20 October 1747.[6] However, the outcome of this meeting was not mentioned by Shipley in his subsequent letters to Baker and no minutes of the proceedings have so far come to light. But the suggestion is interesting because it shows that Shipley was beginning to think about prizes and their utility as a method of stimulating inventiveness. This was one of the occasions when Shipley had taken the 'opportunity of mentioning the good effects rewards had been productive of, on many public and private occasions.'[7] In support of his proposal, Shipley quoted 'several instances both from ancient and modern history: but what more particularly engaged [his] attention to this subject was a familiar instance which then fell within his own observation'.[8] This 'familiar instance' was the stimulus given to British horse breeding by the prizes offered by the King and private subscribers at the races, which as it has been seen, first attracted Shipley's attention in the Northampton horse market and confirmed his views on the good effects of rewards. Shipley's acquaintances in the Northampton Philosophical Society agreed with him about the value of rewards but did not encourage him in his scheme to form a national society for their distribution. Thus, Shipley had to wait for 'a favourable circumstance...[which] opened [the]... door to a more successful attempt to accomplish this important design'.[9] This opportunity arose in 1751, when Shipley successfully overcame the Northampton fuel profiteers.

In 1751 in Northampton, it was usual practice for merchants to buy up fuel at low prices in the summer and sell it to the poor at high prices in the winter. Shipley formed a scheme to overcome this practice by proposing to some of the substantial inhabitants to raise a fund by voluntary subscription to buy a stock of fuel at summer prices and sell it to the poor in winter without profit. Mr Shipley, 'who had this act of charity greatly at heart' put forward twenty guineas of his own money to purchase

[6] W. Shipley to H. Baker, 18 October 1747, John Ryl. Lib. MSS.

[7] Mortimer, *Concise account*, p. 12.

[8] *Ibid*, p. 2.

[9] *Ibid.*, p. 5.

wood for this benevolent plan. When those to whom he appealed saw that he had actually set the example himself and made a beginning, they subscribed some 120 guineas for this undertaking and appointed him treasurer for two consecutive years. By means of this subscription, sea-coal was reduced from 20*d.* to 13*d.* a bushel, pit coal from 2*s.* 6*d.* to 1*s.*, and wood from 14*d.* to 9*d.* per hundred weight.[10]

According to Mortimer, it was the success of the fuel project which turned Shipley's thoughts once more to the establishment of a premium society. [11] On 8 June 1753, Shipley published his *Proposals for raising by subscription a fund to be distributed in Premiums for the promoting of improvements on the Liberal Arts and Sciences, Manufactures, &c.* He believed that 'profit and honour are two sharp spurs, which quicken invention, and animate application; it is therefore proposed that a scheme be set on foot for giving both these encouragements to the liberal sciences, to the polite arts, and to every useful manufactory.' [12] This proposal was followed by the publication of an account of how the intended Society was to function seven months later. The *Scheme for Putting the Proposals in Execution* propounded a definite scheme for a society and drafted rules for the conduct of the proposed premium system, both of which were worked out in considerable practical detail. [13] Like *Proposals*, Shipley's *Scheme* had been taking shape in his mind for some time before it appeared in print. He had been working on it since at least 1751, when Henry Baker had offered 'to oblige' him 'with materials from the Dublin Society' and had advised him to seek the assistance of Dr Stephen Hales.[14] Baker informed Shipley that he shared his belief in the benefits that would arise in England of a 'Society to give premiums in the manner of the one in Ireland', although he 'doubted the possibility of

[10] *Ibid.*, p. 6. Sea coal is the product of Northumbrian pits and pit coal the product of South Staffordshire pits. The fuel project shows that Shipley was a traditionalist as well as an innovator. Supplying the poor with coals or wood at cost price had been an object of pious benefactions and municipal government policy since Tudor times.

[11] *Ibid.*, p. 7.

[12] See APPENDIX 2, *Proposals For raising by subscription a fund to be distributed in Premiums for the promoting of improvements on the Liberal Arts and Sciences, Manufactures, &c., 1753.*

[13] See APPENDIX 3, *A Scheme for putting the Proposals in Execution, 1753.*

[14] W. Shipley to H. Baker, 8 July 1751, John Ryl. Lib. MSS.

bringing it into effect'.[15] Yet, in recommending him to approach Hales, he was putting Shipley in touch with the influential patrons who would make his idea a reality and by supplying him with information about the Dublin Society he was showing him how successful a premium-giving institution could be.

In August 1753, Shipley wrote to Baker saying that he had received two letters from Hales giving him 'the greatest encouragement to proceed' with his plans. Hales had shown the *Proposals* to 'many of our Nobility and from their general approbation of them, thinks it very probable that a scheme for putting them into execution may take place next winter'.[16] Later that year, with his limited financial resources, Shipley took a momentous step and moved from Northampton to London where he might better canvass for the establishment of his premium-giving society.

From the end of 1753 until early 1755, Shipley lodged with Husband Messiter in Great Pulteney Street in London. There, he was conveniently placed between the fashionable area surrounding Piccadilly, where many potential subscribers to his scheme had their town houses, and the Strand and Fleet Street area, where the initial meetings of Shipley's Society were held and where Baker lived. Hales had occasional lodgings in Duke's Court, Westminster. Another of Shipley's London contacts, Nicholas Crisp, was resident at Cheapside. Messiter, Baker, Hales and Crisp were four of the ten who were to attend the first meeting of Shipley's Society. Among the other six were Lord Folkestone and Lord Romney. Hales had written to him that the two peers 'had expressed to him an ardent desire of seeing such a plan carried into execution, and had promised if any such should take place, that they would become subscribers thereto.'[17] Hales also promised Shipley that if he would print his proposals, he would distribute them to as many public-spirited nobles and gentry as possible. These connections marked the start of Shipley's energetic canvass in December 1753.

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[15] Baker's subsequent testimony printed in J. Nichols, *Literary Anecdotes of the Eighteenth Century, Vol. 5* (1812) p. 275.

[16] W. Shipley to H. Baker, 12 August 1753, John Ryl. Lib. MSS.

[17] Mortimer, *Concise account*, pp. 8-9.

Shipley spent around three months canvassing for subscriptions and the results he derived were far from encouraging. Of the 'thirty-five nobles, and a great number of the gentry' he had approached, he had secured the subscriptions of only fifteen.[18] Isaac Maddox, the Bishop of Worcester, also signed the declaration of support which Lord Folkstone and Lord Romney had earlier signed. When he heard of the poor response to Shipley's plan, he, with Lord Folkestone and Lord Romney, urged 'Mr Shipley to get a few Gentlemen of his Acquaintance to contribute in Order to make a beginning, which Mr Shipley had said he believed he could do if their Lordships would be so good as to give them a Meeting'.[19]

The first meeting of the Society of Arts was held on 22 March 1754, at Rawthmell's Coffee-House, at Henrietta Street, Covent Garden. Those present included Viscount Folkestone, Lord Romney, the Rev Dr Stephen Hales, F.R.S.; Henry Baker, F.R.S.; John Goodchild, Esq.; Nicholas Crispe [SIC]; Charles Lawrence; Gustavus Brander, F.R.S.; James Short, F.R.S., and Husband Messiter and Shipley. Rev Isaac Maddox was unable to attend but paid up his subscription all the same.[20]

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[18] *Ibid.*, p. 21.

[19] R.S.A., Dr Templeman's Transactions, Vol. 1, p. 166.

[20] Mortimer, *Concise Account*, p. 22. Sir Jacob Bouveries (afterwards Bouverie) was created Viscount Folkestone in 1747. His father and grandfather were well-known Turkey merchants in London. Robert, Lord Romey, was the second Baron. The Revd Dr Stephen Hales was an eminent physiologist, botanist and inventor. Henry Baker was a naturalist and author. He was the founder of the Royal Society's Bakerian Lecture. He married Defoe's youngest daughter. Close friend and correspondent of Shipley, he took an active part in the formation of the Society of Arts and in its early work. In Nichols's *Literary Anecdotes* (p. 275) it is stated that he 'all along took the minutes, though Shipley's name appeared as the nominal Secretary of the Society.' John Goodchild, afterwards first Treasurer of the Society, was a prosperous linen-draper. He was well-known to Stephen Hales as his neighbour at Teddington and as the father of his curate. Nicholas Crisp was a public-spirited jeweller and pottery manufacturer. Little is known of Charles Lawrence except that he stood surety for a bond issued by Shipley. He was probably one of Shipley's personal acquaintances. Gustavus Brander was a merchant and antiquary, a director of the Bank of England. James Short was an optician and astronomer. Husband Messiter was the surgeon with whom Shipley was living at Great Pulteney Street at the time.

In the formulation and consolidation of his *Scheme*, Shipley was supported by his correspondents in London and his acquaintances in Northampton. More significantly, there were a number of links between the persons involved, these links were strengthened by correspondence and personal contact between the principals. [See *figure 3.2*] Shipley was in correspondence with Baker during his years in Northampton. Through Baker, he got an introduction to the Revd Dr Stephen Hales. Shipley also took advice about his *Scheme* from 'Gentlemen of Fortune and taste' in the Northampton area.[21] These included Dr Philip Doddridge, the theologian and educationalist. Doddridge was also in correspondence with Baker. In 1750, Baker had sent an account of 'an earthquake felt throughout London and Westminster' for Doddridge to communicate to the Northampton Philosophical Society.[22] It was probably through Dr Doddridge that Shipley obtained an interview with Lord Halifax, President of the Board of Trade, whose seat was at Horton. Shipley also had the recommendation of Dr Hales. Dr Hales also had another Northampton acquaintance who would most likely have been familiar with Shipley's plans. This was Thomas Yeoman, the millwright turned engineer who manufactured Hales's ventilators and who was one of the most active members of the Northampton Philosophical Society.[23]

Husband Messiter, Nicholas Crisp and Baker were the three people Shipley knew when he arrived in London in 1753. Gustavus Brander and James Short would have known Henry Baker and Dr Hales through Fellowship of the Royal Society and Brander and Baker were also linked as Fellows of the Society of Antiquaries. John

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[21] W. Shipley to H. Baker, 8 July 1751, John Ryl. MSS.

[22] *Gent. Mag.* **29** (1750), p. 89.

[23] For Thomas Yeoman, see E. Robinson, 'The Profession of Civil Engineer in the Eighteenth Century: a Portrait of Thomas Yeoman, F.R.S., 1704(?)-1781' *Ann. Sc.* **18** (1962) pp. 195-215; J. Harrison, '"The Ingenious Mr Yeoman' and some associates: a practical man's contribution to the Society's formative years' *J.R.S.A.*145 (1997), pp. 53-68; and D. Bates, 'Thomas Yeoman, F.R.S.' New *D.N.B.*, forthcoming.

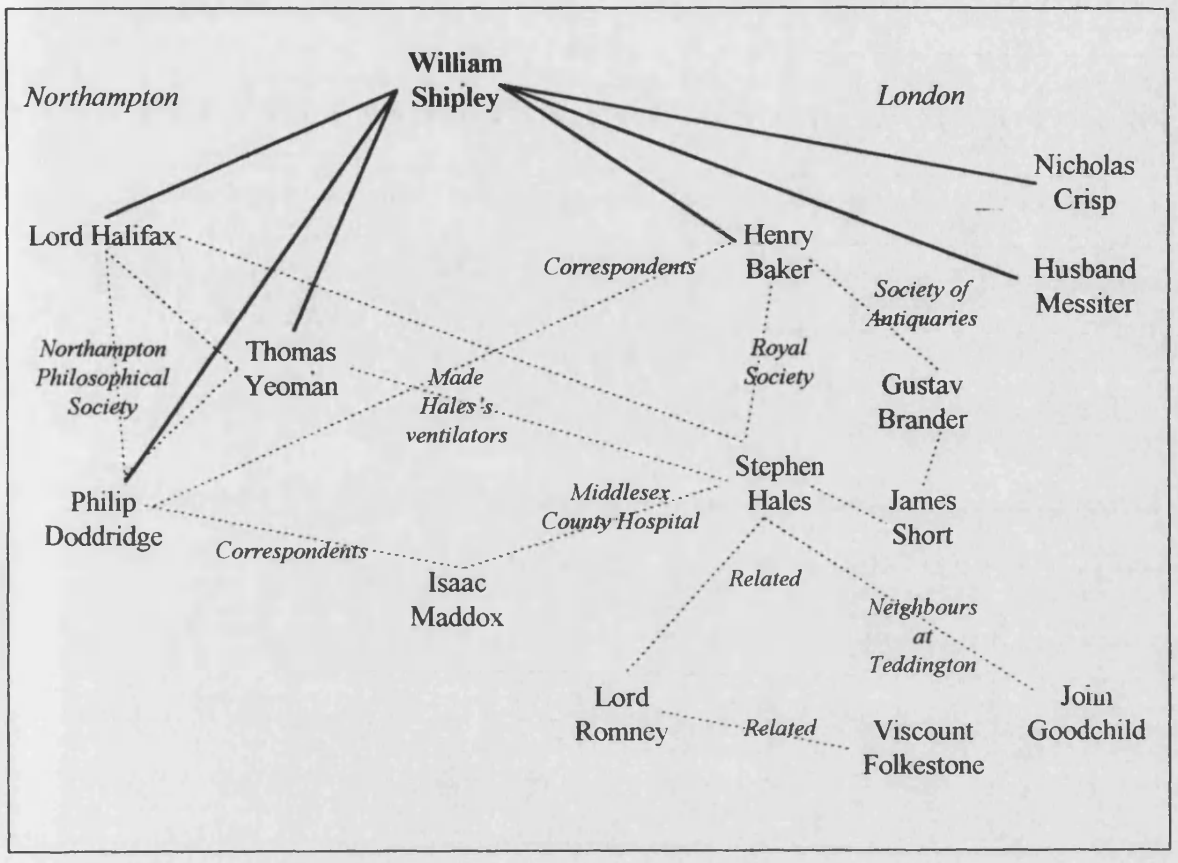

Figure 3.2 : Links between the principal supporters of Shipley's *Scheme*, Northampton and London.

Goodchild was Stephen Hales's neighbour at Teddington. Through Dr Hales, Shipley was able to canvass support for his *Scheme* from Lord Romney and Viscount Folkestone. Dr Hales was related to Lord Romney, and Lord Romney was the brother-in-law of Lord Folkestone, who had married his sister, the Hon. Elizabeth Marsham. Another powerful supporter, Isaac Maddox, Bishop of Worcester, was Dr Hales's colleague on the governing body of the Middlesex County Hospital. He had known Dr Doddridge and once written to him of the need for some national scheme for social regeneration.[24] Clearly, there were links between the individuals involved which helped to bring Shipley's plans into fruition.

[24] T. Stedman, *Letters to and from the Revd Philip Doddridge, D.D.* (Shrewsbury: 1790), pp. 452-3. Quoted in Allan, *William Shipley*, p. 53.

A fortnight after the inaugural meeting, a second meeting was held on 29 March again at Rawthmell's Coffee House.[25] A definite decision was arrived at to offer premiums for the discovery of cobalt and the growth of madder and a subscription list was opened up. Lords Folkestone and Romney headed the list with a donation of ten guineas each, and also promised to guarantee whatever further sums might be required so that an announcement may be made of the offer of prizes. The Earl of Shaftsbury also sent ten guineas and four others gave two guineas each. An advertisement was placed in the *Daily Advertiser* announcing what was effectively the Society's first premium list:

1. For the best quantity of cobalt (not less than 20 lb.) produced in this country - £30.
2. For raising and curing not less than 20 lb. of madder - £30.
3. For the best drawing by a child under fourteen years of age - £15.
4. For the best drawing by a child between fourteen and seventeen - £15.[26]

At the time, madder was not grown in England on a commercial scale, though a great deal was imported from the East and from the Low Countries, where its cultivation had been established. Because it was grown in large quantities in Flanders, it was quite common for cloth made in England to be sent over there to be dyed. Until the introduction of the coal-tar colours in the nineteenth century, madder was the principal source of all red dyes. Cobalt is a hard white metal remarkable for the brilliant colours of some of its compounds. The Society's intention was to make available cheap dyestuffs to enable the British textile industry to stop sending textiles abroad to be dyed.[27] Thus, the new Society began to put Shipley's plan into practice.

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[25] Rawthmell's was frequented by doctors like Dr George Mead, George II's physician, and by several men of science who were Fellows of the Royal Society, Hudson and Luckhurst, *Society of Arts*, p. 5.

[26] The *Daily Advertiser* was one of those narrow, closely printed newspapers that lay among the coffee cups on tables at Rawthmell's. *Ibid.*, p. 9.

[27] *Ibid.*, p. 8; Wood, *History*, p. 15.

3.2 THE HISTORICAL SETTING

When William Shipley proposed an easy method 'to embolden enterprise, to enlarge Science, to refine Art, to improve our Manufactures, and extend our Commerce' in 1753, he was contributing to a long tradition of rhetoric. Between 1701 and 1750, over 250 proposals had been published, each promising a nostrum which would bring strength and riches to the country. There were proposals for 'improving the Fisheries', 'for the encouragement of seamen', 'for supplying the nation with money', 'for the due regulation of Servants', 'for employing all the poor', and a host of other apparently desirable objects.[28] Shipley himself, wished to enlarge commerce through fostering the arts and sciences and 'to render Great Britain the school of instruction as it is already the centre of traffic to the greatest part of the known world' as well. [29] Precedents to his *Proposals* can be found in a number of plans to foster the inventive talents of the people though the foundation of premium-giving societies.

As early as 1721, a pamphlet had appeared proposing the formation of a Chamber of Arts financed by private subscriptions, that would sponsor experiments in inventions and new manufactures, and reward inventions. Its essentials were given in three paragraphs:

> The Business of this SOCIETY may be to enquire into the Manner of performing any Thing Curious or Rare in all Arts, Trades, and Manufactures, as well Abroad as at Home, and to keep a continual Register of the same; to invite ingenious Artists and Mechanics, as well Foreigners, as others, to apply to them; and to be at the Charge of Promoting, and Encouraging, or making Trials and Experiments in any new Invention, Art, or Manufacture; and to give particular Rewards to those that invent or contrive any New Tool, or Instrument in Husbandry, or Workmanship, by which any Trade or Occupation is benefited, and where the Property cannot be secur'd to the INVENTOR by a Patent.

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[28] L.W. Hanson, *Contemporary Printed Sources for British and Irish Economic History, 1701-1750* (Cambridge: 1963), pp. 854-9.

[29] Shipley, *Proposals*, APPENDIX 2.

> And to enable the SOCIETY to answer these great Ends, each Member may subscribe to pay a small Sum Annually, and make a Donation on Admittance, of such a Sum as their different Circumstances and Inclinations will allow of: And to reimburse this Charge, in Case of Success in any very valuable Invention, they may, by Agreement with the Inventor, have a certain Share in the Patent, or other Advantage arising from it.
>
> The Consequences of the Success of such a SOCIETY, will be very much for the Benefit of the Publick: Their Registers will contain the Arts and Mysteries of our Trades and Manufactures; nothing of Use can for the Future be lost to Posterity; and every one that has the Liberty of perusing them, may set his Head to work to make Improvements. Their Contributions will be a continual Fund to help and assist Ingenuity, and no useful Undertaking will be lost, either for want of due Trial, or the Incapacity or Obscurity of its Projector. Even by this Means, we may draw from other Nations their Trades and Manufactures, and make our own Country the Retreat and Succour of every peculiar Genius for ARTS and INVENTIONS.[30]

Even though this society did not materialize in the end, the proposal deserves consideration as a stage in the evolution of premium-giving societies. It was an important anticipation of the Society of Arts and when rediscovered in the 1760s, was said to be a possible influence leading to its foundation.[31] But even the anonymous advocate of the Chamber of Arts had admitted that 1721 was 'not a proper time to introduce anything new, when Projects in general are under so much Disreputation, and with so many People reduc'd to Misfortunes by playing with them.' The wave of

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[30] *Three Letters concerning the Forming of a Society, To be called The Chamber of Arts, For the Preserving and Improvement of Operative Knowledge, the Mechanical Artsm Inventions, and Manufactures* (1721), pp. 4-5. A copy in manuscript of the *Three Letters* was made by Dr. Peter Templeman as part of his 'Historical Register' of the Society of Arts, compiled *cir.* 1760-9. R.S.A., 'Dr. Templeman's Transactions', I, pp. 1-14.

[31] [E. Brigden], *A Short Account of the Great Benefits which have already risen to the Public, by means of the Society...of Arts* [etc.]. (1765), p. 5.

wild stock-market speculation that led to the collapse of the South Sea Company had disrupted public confidence. However, he hoped that 'our late Losses and Misfortunes might...make them more Industrious, more Inquisitive, and more Diligent, by all honest Means to retrieve the ill State of our affairs.'[32] It required the more confident atmosphere of the middle of the century before those 'of the public spirit' came together to form a society for the purposes similar to those advocated in 1721. Indeed, the great flowering of inventive skill and the increased velocity of economic growth, which followed the turn of the century, was contemporary with Shipley's public career. This climate was created by a web of social, economic and political factors. By the time Shipley published his *Proposals*, England had enjoyed her years of Walpolian peace and prosperity, forgetting the uncertainty of 'South Sea Time' yet retaining her zeal for commercial preponderance.

The inventive idea had been nurtured by English scientists ever since the foundation of the Royal Society in 1660.[33] Soon after its foundation, the Royal Society had shown an interest in improved methods of raising sheep and planting corn, in the propagation of fruits and trees, the cultivation of silk in North America, the discovery of dyestuffs and new 'mechanic arts'.[34] These were topics which were to interest Shipley and his colleagues when they founded their new society ninety years later. Shipley's Society succeeded partly because its existence complemented that of the Royal Society. H.B. Wheatley writes:

> As the condition of England in the middle of the seventeenth century brought about the foundation of the Royal Society and the popular and widely-spread interest in the investigation of science, so the condition of the country in the middle of the eighteenth century brought about the formation of the Society of Arts for the encouragement of the applications of science for the general

[32] *Three Letters*, pp. 6, 10.

[33] For the foundation and early history of the Royal Society, see TWO [2.4].

[34] T. Sprat, *The History of the Royal Society of London for the Improving of Natural Knowledge, Reprint edition* (1959). For the agricultural activities of the Royal Society, see TWO (2.4) and Lennard, 'English agriculture under Charles II'.

> good...The lines upon which the Royal Society was founded were not followed by the founders of the Society of Arts. The latter made an entirely new departure and were strictly original in their scheme. Their objects were national, and the members gave their money and their time not for their own private advantage, nor for the increase if their personal knowledge, but in an attempt to raise the productive powers of the nation itself.[35]

In the meantime, the Royal Society had achieved international eminence from the theoretical work of Robert Boyle, Isaac Newton and others and there was certainly no lack of desire in the society to harness scientific knowledge to practical ends. However, the constitution of the society provided only for the publication of such knowledge and did not allow for any direct reward to inventors. The Chamber of Arts, proposed in 1721, would have remedied the situation but it was never established.

In 1738, another attempt was made to extend the work of the Royal Society in this direction. In that year, Philip Peck put forward *A Proposal for the Encouragement of Arts and Sciences* whereby the Society would raise a fund of £1000 to assist persons producing new and useful inventions.[36] Though he was not a Fellow of the Society, Peck knew its President, Sir Hans Sloane, and through him, was able to get his *Proposal* considered at a Council meeting. It was rejected but the Society maintained that 'they will [not] give any interruption to the design of any Society, which the proposer now seems to be in hopes may be formed thereon'.[37] The Society's records do not give the reason for the rejection but it has been suggested that it was due to Peck's intention that the subscribers to his scheme would have a share in the profits of successful inventions. However, this would have turned the Society into a sort of joint-stock company for the exploitation of patents and this did not appeal to the Council of the Society.[38] Shipley's attitude to the exclusive privileges granted by

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[35] H.B. Wheatley, 'The Society of Arts' *Engineering* **51** (1891).

[36] R. Soc., Misc. MSS, Vol. 4, No. 57.

[37] R. Soc., Council Minutes, 20th October 1738.

[38] Allan, *William Shipley*, p. 15.

patents of invention may be deduced from the fact that he was himself never a patentee in spite of his long career as an inventor and from the refusal of his Society of Arts to grant premiums for inventions which had been or were intended to be patented.

3.3 PRECEDENTS

There were several precedents to Shipley's idea of using premiums to encourage specific developments in certain industries. Premiums had been awarded to those whose invention was of direct use to the government, or unsuitable for either monopoly or commercial exploitation.[39] It was the Parliament, rather than the Crown, to which suggestions or petitions were addressed, and several Acts were passed in the eighteenth century which gave large monetary rewards to inventors. In 1732, Parliament awarded Thomas Lombe £14,000, partly in recognition of the utility of his invention of a silk-turning machine, partly in compensation for his failure to profit from a patent. The only condition was that Lombe deposited a model of his silk-throwing machines at the Tower of London with a full description of their manner of working.[40] Lewis Paul and John Kay, finding little commercial success in their respective textile inventions, unsuccessfully solicited parliamentary rewards.[41] Between 1750 and 1825, at least eight Acts of Parliament were passed authorizing the offer of awards for specific inventions and granting substantial sums to specific inventors. John Palmer was awarded £50,000 for devising a new way of organizing the mail. Crompton's spinning mule earned £5,000, Edward Jenner's vaccine £30,000. By 1815, Parliament had distributed over £77,000.[42] Parliament also offered

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[39] MacLeod, *Inventing the industrial revolution*, pp. 38, 193.

[40] *Ibid.*, p. 49. The need to protect this innovation, which Lombe had acquired from Italy, was a major motive in the building of a factory on the River Derwent in Derby earlier in 1717. R.A. Buchanan, *The Power of the Machine: the Impact of Technology from 1700 to the Present* (1992), p. 99.

[41] A.P. Wadsworth and J.D.L. Mann, *The Cotton Trade and Industrial Lancashire, 1600-1780* (Manchester: 1931) pp. 443-4, 458

[42] K. Boehm and A. Silberston, *The British Patent System: I. Administration* (Cambridge: 1967) p. 26.

rewards for inventors who resolved certain intractable problems. The first was for the accurate determination of longitude.

During the eighteenth century, there were a number of inventor's bills passed by Parliament to encourage invention in certain arts, primarily the construction of navigational instruments. On 25 May 1714, a petition was presented to Parliament by certain 'Captains of her Majesty's Ships, Merchants of London, and Commanders of Merchant-men' in the hope that research into the problem of determining the longitude should be encouraged and widened by the offer of money awards to anyone who could devise a solution. The government took the petition very seriously and a special Parliamentary Committee was set up in June 1714 to investigate the longitude problem. The Parliamentary Committee sought the opinions of various prominent men including Isaac Newton, President of the Royal Society, and also the Revd William Whiston and the Revd Humphrey Ditton, two clerics who had published *A New Method for Discovering the Longitude* in 1713. A variety of possible schemes were discussed and the Committee decided that they could not foresee the likelihood of any of them being developed so as to be of practical use at sea. They therefore recommended to the House:

> That a reward be settled by Parliament upon such Person or Persons as shall discover a more certain and practicable Method of Ascertaining the Longitude than any yet in practice; and this said Reward be proportioned to the Degree of Exactness to which the said Method shall reach.[43]

Parliament took the recommendations of the Committee and as a result, on the approval of the House of Lords, the Longitude Act was passed on 8 July 1714. Briefly, the Act offered three prizes for a method of determining longitude, graded in amount accourding to the degree of accuracy achieved:

> £10,000 if the error did not exceed sixty geographical miles

[43] *J. H. of C.* (7 December 1711 to 1 August 1714) 17 (1803), pp. 641-2. Quoted in H. Quill, *John Harrison: the man who found Longitude* (New York: 1966) p. 5.

£15,000 if it did not exceed forty miles
£20,000 if it did not exceed thirty miles.[44]

In order to qualify for such an award, the invention or device would have to be tested and found useful and practicable on a voyage to the West Indies. This in effect meant a trial of at least six weeks at sea. The administration of this statute was entrusted to a body of twenty-two judges known as the 'Commissioners of the Board of Longitude' which was to be directly answerable to Parliament. This Board was composed of sailors, politicians and scholars, and was authorized by Parliament to judge all proposals, experiments and improvements relating to the longitude; to allocate money for the development of likely proposals; and to recommend the award of a prize if an invention was proven to be practicable within the definition and limits set down by the Act.[45]

The extent of the difficulties in finding a solution to the longitude problem is evident in the fact that the Commisioners of the Board of Longitude did not have occasion to record anything in their minutes for the first twenty-three years of their existence. It was 1737 before the Commissioners first met to examine the claim of John Harrison, whose first chronometer, commonly known as 'H_1' (Harrison's No 1), had been tested by the Royal Society and had proved its worth on a voyage to Lisbon. However, under the strict conditions laid out by the Act and the expectations of the Commissioners, it took Harrison a further thirty-three years and three more chromometers, the 'H_2', 'H_3' and 'H_4' to achieve success.[46] Harrison had reached the standard required by the Act in 1761 but it took the next twelve years to wrest the reward from the government.[47] Finally, it was after numerous trials, a great deal of negotiation, the personal intervention of George III and an Act of Parliament before he received proper financial recognition of his invention of a timekeeper for

[44] A geographical or nautical mile equals 6,080 feet.

[45] 12 Anne, c. 15

[46] These abbreviations were a useful series originally coined by Commander R.T. Gould as a ready means of distinguishing between Harrison's four timekeepers.

[47] Quill, *John Harrison*, pp. 100-15.

ascertaining of longitude at sea.[48] This final award brought the total to £18,750 and does not include the various grants given to him over the years by the Board of Longitude.

It is most unlikely that Harrison could have perfected his chronometer without a number of grants from the Board, totalling £3,000 between 1741 and 1761.[49] In 1757, Harrison had even tried to raise money by competing for a prize of £50 offered by the Society of Arts for the construction of an inexpensive corn-mill. In December 1757, Harrison was one of the twenty contestants who had assembled in London to compete for the premium offered by the Society. He produced a hand-mill of his own design but 'by working it too hard it broke and was rejected'. His biographer, H. Quill comments:

> It seems rather a tragedy that a man of Harrison's exceptional ability, who had recently been awarded the Copley Gold Medal of the Royal Society, should have been so reduced for finances that he had to try to win £50 by working at a project in very great contrast to the precise and delicate work of making a precision timekeeper.[50]

It is of interest to note that after John Harrison was awarded his compensation, Parliament repealed all the Acts dealing with longitude prizes, and replaced them with new legislation.[51] This new Act laid down revised conditions that proved so severe that the prize was never won; or as Neville Maskelyne, the Astronomer Royal, is believed to have remarked, this new Act 'had given the mechanics a bone to pick that would crack their teeth.'[52]

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[48] 13 George III c.77.

[49] Quill, *John Harrison*, pp. 35-7, 40-8, 68-9.

[50] On 30 November 1749, the Royal Society had awarded the Copley Gold Medal to Harrison in recognition of the scientific importance of his ideas, inventions and the way in which he was applying them to practical use, *ibid.*, p. 75.

[51] 14 Geo. III c.66.

[52] Quoted in Quill, *John Harrison*, p. 207.

The Board of Longitude continued in existence from 1714 to 1828, disbursing about £101,000 in that period. According to A.P. Usher, this was 'the largest expenditure made by any European state toward the solution of this particular scientific problem' and 'it played a notable role in the stimulation of work on the marine chronometer in England'.[53] It was also an episode which confirmed that invention could, to a certain degree, be a deliberate volitional activity, and in those instances premiums played a signicant role in encouraging efforts towards accomplishing these goals. This was clearly perceived by Shipley when he proposed the use of premiums to 'quicken invention, and animate application... [in] every useful manufactory.'[54]

Occasionally, Parliament also made deals with individuals, buying their rights to the invention or discovery where it was regarded as of immediate public importance. One such instance was Joanna Stephens's remedy for kidney stones. For many medical practitioners, the stone was probably a more pressing problem than the longitude and just as intractable. In the eighteenth century, urinary lithiasis, or kidney stones, was most commonly treated by surgery. This operation was potentially dangerous to the patient with risks of haemorrhage and trauma. However, during the course of the century, an alternative treatment was offered to sufferers of the stone. This was a drug known as a lithontriptic, which was said to be capable of dissolving stones *in vivo* when taken orally or injected directly into the bladder and thus, eliminated the hazards of surgery. The first of the lithontriptics introduced in the eighteenth century was *Joanna Stephens's Medicine for the Stone*. Her empirical remedy proved successful in a number of cases and eventually came to be respected by many important and influential members of London society in the early 1740s.

The public first heard of Joanna Stephens when David Hartley, her most avid supporter, published a small treatise, *Ten Cases of Persons Who Have Taken Mrs Stephens's Medicines for the Stone,* in 1738. As Hartley himself had been a sufferer of the stone and was cured after taking her remedy, he extolled the value and virtue of her remedy. He wanted to make the beneficial effects of her medicine known to other

[53] *A History of Mechanical Inventions* (Harvard: 1962) p. 324.

[54] W. Shipley, 'Proposals' in APPENDIX 2.

sufferers and collected case histories from nine other persons who suffered from the stone and whose symptoms, like his, were similarly cured after taking this remedy. In publishing his treatise, Hartley not only wanted to share the efficacy of Joanna Stephens's drug, but also to inform the public that her secret remedy was now for sale. The price she asked for the disclosure of the drug was a one-off payment of £5,000. In Hartley's opinion, this was a small price to pay for a remedy that had already proved so beneficial in many painful and dangerous cases of the stone.[55]

The public had already been contributing to Joanna Stephens's fund even before Hartley published his treatise. On 27 April 1738, a notice appeared in *The Gentleman's Magazine*:

> Mrs. Stephens has proposed to make her Medicine for the Stone publick, on Consideration of the Sum of £5,000 to be lodged with Mr. Drummond, Banker. He has receiv'd since the eleventh of this Month, about £500 on that account.[56]

By May, Mr Drummond had £720, and £1,250 by October. At the final count in December, 189 people had contributed £1,356, a comfortable sum but short of her required amount of £5,000.[57] Ever resourceful, she then petitioned Parliament for the full amount. On 26 March 1739, Parliament received this petition and by a vote of 105 to 62, agreed to form a committee to consider this petition. This Parliamentary Committee, comprising legislators, natural philosophers and physicians, met on 10 April 1739 and agreed to pay the £5,000 to Stephens if her remedy was as efficacious as she claimed. She agreed to these terms and submitted her recipe to the Trustees in June 1739.[58] The remedy was prepared by the Trustees and administered to four

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[55] A.J. Viseltear, 'Joanna Stephens and the Eighteenth Century Lithontriptics; a Misplaced Chapter in the History of Therapeutics' *Bulln Hist, Med.* **42** (1968) p. 201.

[56] *Gent. Mag.* **8** (1738) p. 218.

[57] *Ibid.*, p. 275; *Gent. Mag.*, **9** (1738) p. 49.

[58] The recipe was published in full in the *London Gazette* on 16 June 1739, Viseltear, 'Joanna Stephens', p. 202.

sufferers of the stone. After this very modest clinical trial in which all four were treated successfully with her lithontriptic, their case-studies were presented to Parliament on 5 March 1740, a year after the petition was received and approved. After assessing the evidence, Parliament approved of the award on 12 March 1740. Five days later, Joanna Stephens received the £5,000 from the Office of the Exchequer.[59] This episode highlights the significant role premiums had to play in liberating invention. It encouraged people to reveal the 'secrets' of their discoveries in return for a reward.

Positive steps were also being taken in Scotland to encourage agricultural and industrial development with premiums and sponsorship of research. A fund, financed out of the malt excise, was established at the Union, to be administered by a Board of Trustees for the Improvement of Manufactures in Scotland. The Malt Fund was a sum granted by Parliament for the encouragement of manufactures in Scotland at the time of the Union. It was a surplus of over £200,000 raised in Scotland as excise duty on malt. Its granting to the Board of Trustess was a concession to Scottish interests. When the excise duty did not reach £200,000 the fund failed. [60]

The linen industry in particular benefitted from this Malt Fund, since the Board supported and rewarded research into better methods and machinery. At the beginning of the eighteenth century, Scotland's bid to compete in the world market drew attention to the backward state of bleaching, then a part-time unskilled

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[59] From this time, Stephens disappears from the story, except when her medicine was attacked or defended but she is never heard of again. It is interesting to note that Dr Stephen Hales, veteran scientist and inventor, friend of William Shipley, had advised the House of Common on the question of rewarding Mrs Stephens with £5,000 of public money for her cure, Allan, 'Society of Arts and Government', p. 439. Viseltear points out that the story of Stephens and her remedy for the stone is discussed in all texts written on the subject of quackery 'In each text she is vilified by the authors as a clever but nefarious woman who could somehow "hoodwink" Parliament into paying her the incredible sum of £5,000 for a recipe which contained such repugnant ingredients...[as] ...calcined egg shells, soaps, wild carrot seeds and snails.' 'Joanna Stephens'., p. 200.

[60] A. Clow and N. Clow, *The Chemical Revolution: A Contribution to Social Technology* (1952) pp. 5-6.

occupation carried out by country housewives on the banks of the streams. The poor quality and slow delivery of bleached linens was making the selling of Scots cloth abroad very difficult. In 1727, the Board of Trustees established a Model Fund out of which the inventors of new machinery were rewarded with prizes of up to £100. The Board, concerned with disseminating the improvements throughout Scotland, also paid inventors to teach their new methods. For example, a man skilled in a certain kind of work was despatched on a tour of the country so that his knowledge might be shared, or interested bleachers could enquire about a new machine from the inventor himself.[61]

The Board of Trustees was slightly more akin to the Society of Arts. They were constantly on the look-out for improvements, ever-ready to reward ingenuity. However, with its dependence on Parliament for its prize money, it led a precarious existence. It was reported in 1755 that the funds of the Linen Committee were exhausted and in 1761, it was decided that the sums of money granted to bleachers should in future be regarded not as gifts but as loans. The premium system, as operated by the Society of Arts and subsequent societies, did not depend on grants from the government but the subscriptions of private individuals.

A closer precedent to Shipley's premium-giving Society of Arts was the 'Dublin Society for Promoting Husbandry and other useful arts' which had been founded in 1731 in Ireland.[62] In 1740, finding itself in financial difficulties due to increasing expenditure on the one hand and mounting arrears of subscriptions on the other, it adopted the Revd Dr Samuel Madden's plan for awarding premiums. Briefly, Madden suggested augmenting the Society's funds by obtaining contributions from persons of fortune and seeking a charter of incorporation for the Society. He proposed the funds obtained should be employed firstly as premiums to encourage manufactures, and secondly to set up experimental farms to study the husbandry best suited to the

[61] E. Gauldie, 'Mechanical aids to bleaching in Scotland' *Textile Hist.*, 1 (1969) pp. 129, 134-7.

[62] For the foundation of the Dublin Society, see TWO (2.3).

country.[63] Madden concluded with an offer of £130 a year for two years - £30 to be devoted to experiments in agriculture and gardening; £50 to the best annual invention in any of the liberal or manual arts; £25 for the best picture, and £25 for the best statue produced in Ireland.[64] If the Society could raise £500, Madden pledged to contribute his annuity of £130 for life. He also offered to use his influence to raise the additional funds required.

Samuel Madden, D.D., the son of John Madden, M.D., was born in Dublin on 23 December 1686. His mother, Mary Molyneux, was the daughter of Samuel Molyneux and sister of William and Sir Thomas Molyneux, one of the founder members of the Dublin Society. He succeeded to the family estates in 1703 and took possession of the family seat of Manor Waterhouse in county Fermanagh. He was ordained and became rector of Galloon, and subsequently of Drunmully. He was very enthusiastic about the wide applicability of premiums; they were 'his panacea for all ills.'[65] As early as 1730, he had submitted a scheme for the encouragement of learning by a system of premiums to Trinity College in Dublin.[66] In 1738, Madden published his *Reflections and Resolutions proper for the Gentlemen of Ireland, as to their Conduct for the Service of their Country.* This work attributed the low condition of the country to the extravagance and idle dispositions of the people. He recommended that criminals, instead of being executed or transported, should be employed in manufacturing hemp and flax in workhouses; that itinerant husbandmen should be encouraged to travel through the country to instruct farmers; and that schools of agriculture should be established in the principal towns. More significantly, he pointed out the benefits derivable from a judicious distribution of premiums, a subject which he brought under the notice the Dublin Society in his *Letter* of 1739, and which the latter adopted in

[63] *A Letter to the Dublin Society on the Improving their Fund* (Dublin: 1739). There is a copy at the Royal Irish Academy, Haliday Pamphlets Vol. 144 (1739).

[64] *Ibid.*, p. 56.

[65] White, *Story*, p. 21.

[66] The details of this scheme are set out in *A Proposal for the General Encouragement of Learning in Dublin College* ((Dublin: 1731).

1740.[67] Madden was apparently so enthusiastic about premiums that in a matter of time, he came to be known as 'Premium Madden'. [See *figure 3.3*]

In February 1740, Madden was able to report that subscriptions received by him for the Society's premium fund had amounted to almost £900 per annum. In May 1740, an advertisement was placed in the newspapers:

> The Dublin Society, in order to promote such useful arts and manufactures, as have not hitherto been introduced, or are not yet brought to perfection, in this kingdom, give notice that they intend to encourage, by premiums, annual contributions, or other methods, any persons who are skilled in such arts and manufactures, and will carry them on in the best and most skillful manner.[68]

The first premiums were adjudged on 15 January 1741, when a number of claimants presented their entries which included earthernware, artificial leather, spinning cotton, twilled stockings, engines for scutching flax, a surveying instrument and a number of paintings, stonework and sculptures.[69] The premiums offered by the Society drew attention to its activities and won it the patronage of the government and eventually, the coveted Royal Charter in 1750. [70]

Shipley arrived at the same views on premiums through independent investigation. Madden and Shipley did not become acquainted until after the Society of Arts had

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[67] *D.N.B.*, **12** (1921-2).

[68] Berry, *History*, pp. 55-6.

[69] Meenan and Clarke, *Royal Dublin Society* p. 7.

[70] Despite his contribution to the Dublin Society, it is unclear if Madden himself was ever a member. Historians of the Society have disagreed about this. In his 1913 book, Henry Berry claims that Madden became a member of the Dublin Society in 1733. However, Terence de Vere White, writing in 1955, states the opposite. James Meenan and Desmond Clarke, obviously remaining neutral in 1981, write that though Madden 'does not appear to have been a founder member of the Dublin Society, he was aware of its work.' (p. 6). They do not mention if he became a member of the Society later on.

SAMUEL MADDEN, D.D.
(From a Mezzotint by Charles Spooner)

Figure 3.3 : Samuel 'Premium' Madden.
Source : H.F. Berry, *A History of the Royal Dublin Society* (1915).

been successfully established. In 1757, Madden told Shipley that he had himself tried to establish a premium fund in England and had sought the patronage of the Prince of Wales (later George III). However, while the 'Prince approved it and my zeal, he told me his Finances would not bear such a Burden, which was fitter for his Royal Father's encouragement (or words to that Effect) than his, and so it dropped neglected.'[71] Unlike his grandson, George II took little personal interest in anything beyond the purely political and military spheres, and like Madden, Shipley received no Royal support when he established his Society in 1754.

However, when Shipley was working out the details of his scheme for the Society of Arts in the early 1750s, he did make use of the example of the Dublin Society. In 1751, he had asked Henry Baker 'to oblige' him 'with materials from the Dublin Society' and Baker probably sent him one of the Dublin Society's premium lists. In his *Scheme*, Shipley proposed the offer of premiums for the same general categories, that is, husbandry, manufactures and arts, as those of the Dublin Society.

In England, Shipley's Society of Arts was anticipated by the Anti-Gallican Association. According to the inscription on its medal, the Association was very specifically 'Founded in the French War, 1745' to promote British manufactures, to extend the commerce of England, to discourage the introduction of French methods and oppose importation of French commodities.[72] In essence, it was one of the many eighteenth century dining clubs which combined the pursuit of convivial pleasure with attachment to a particular cause. The members, or 'brethren' as they were referred to, were said to be 'Gentlemen of the best Characters and Address, none being admitted but persons of Reputation and Loyalty'. The Countess of Middlesex had been elected an 'honorary associate' on account of her refusal to wear French fabrics but regular membership was clearly restricted to men.

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[71] S. Madden to W. Shipley, 26 November 1757, R.S.A. Guard Book III, 119.

[72] D.G.C. Allan, 'The Laudable Association of Antigallicans', *J.R.S.A.* **137** (1989) p. 623; Allan, *William Shipley*, p. 16.

Until 1751, the Association fulfilled their patriotic mission chiefly by refusing to drink claret or wear French lace. Between 1751 and 1753, it raised a fund among themselves in order to grant a number of premiums for English lace and needlework. Its premiums followed the much admired example of the Dublin Society and anticipated the encouragement which the Society of Arts would give in the 1760s:

> The Association's premium system of 1751 to 1753 was so similar to the subsequent activities of the Society of Arts that it is tempting to look for possible influences it had on the Society's founders and see it also as a factor leading to the successful establishment of the Society. [73]

However, this is difficult to establish with any certainty. To some extent, Shipley echoed this economic nationalism in his *Proposals*. Although he did not publish his *Proposals* until June 1753, they had certainly existed in manuscript form and had been presented to the Northampton Philosophical Society from as early as 1747. While the common interests of Shipley's Society and the Association were patriotism and paternalism, Shipley's emphasis was more on arts and sciences and the fostering of inventive skill. He envisaged a properly organized Society of Arts rather than the militant dining brotherhood which formed the basis of the Anti-Gallicans. Furthermore, in time, the Society became part of an international community of science while the Association 'remained rooted in its national prejudices so that the periods of peace worked to its disadvantage and those of war to its advantage'[74] This was evident when the Association underwent a revival when France lent its support to the rebellious colonies in North America in the late 1770s, though with the Treaty of Commerce in 1786, its *raison d'être* largely disappeared.

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The idea of using premiums to encourage innovation was not entirely a new concept. There had been several Acts of Parliament passed in the eighteenth century which had rewarded inventors. There were societies such as the Dublin Society in Ireland, which

[73] Allan, 'Laudable Association', p. 625.

[74] *Ibid.*, p. 626.

offered premiums for excellence. Clearly, the idea of premiums for invention was in both the minds and imaginations of some of the progressive thinkers of the period. As early as 1721, there had also been a proposal to form some kind of institution which would financially assist inventors, for example, in rewarding those who could not secure patents for their inventions. Nothing came of this due to the devastating bursting of the South Sea Bubble a year earlier in 1720 which left many people highly suspicious of any projects. In 1738, the Royal Society was approached by Philip Peck to raise £1000 in order to assist inventors in obtaining patents for their inventions. However, it declined, thus leaving the way open for William Shipley to propose his *Scheme* of forming a premium-giving society in London to encourage invention in 1753. It was from the remarkable instance of premiums given at horse fairs, that Shipley saw its potential for wider application and had the idea of using it to stimulate specific developments. As a result of Shipley's energetic canvassing, a group of public-spirited individuals came together to establish the Society of Arts, first association of its kind in England, in 1754. The premium system was maintained largely through private subscriptions and functioned without government aid. In the years to follow, the premium system was practised mostly by the agricultural societies which followed the Society of Arts and were established in the zeal to promote agricultural improvement.

4. THE PREMIUM SYSTEM AND THE PROMOTION OF AGRICULTURE

Agricultural societies dedicated to the improvement of agriculture and rural conditions grew very rapidly in number in England from the late eighteenth century onwards. There was a common pattern in their aims and methods since imitation inspired the foundation of most of these societies. The national and provincial societies shared the same general objective of promoting agricultural progress.. The societies were primarily concerned with fostering a spirit of improvement among the farming community and the blueprint for success was the premium system. The emphasis of the premium system was on the improvement of agriculture through invention, innovation and emulation. Premiums for agriculture were most typically offered for the following categories: agricultural operations, chemistry, crops and plantations, essays, industry and 'good behaviour', livestock, mechanics, soils and manures, and wool. In all these respects, their most significant contribution was the generation and circulation of information which quickened the pace of agricultural improvement.

4.1 OPERATION OF THE EARLY PREMIUM SYSTEM

The premium system was an intricate reward system employed by the agricultural societies in the eighteenth and nineteenth centuries. It consisted of pecuniary or monetary premiums and honorary premiums and, secondly, specified and unspecified premiums. Pecuniary premiums were cash awards while honorary premiums could be in the form of certificates, plates, buttons, or medals. Pecuniary premiums were intended as monetary incentives to innovators to share their ideas or as rewards to farmers for adopting progressive methods of husbandry. These were fairly straightforward one-off payments which could be viewed as financial incentives, rewards, or research subsidies. Honorary premiums on the other hand, were meant as symbols of great honour. They were meant as marks of social distinction for the premium winners and served the purpose of demonstrating to their contemporaries their public spirit. 'Specified premium offers' were awards to candidates who claimed

under the terms of the annual advertisements of the agricultural societies. 'Unspecified premiums' or 'bounties' were bestowed on improvements that were not previously called for by the societies or did not precisely come within the terms of the annual advertisements.[1] In other words, 'a reward bestowed in fulfilment of a promise, upon the performance of a specified service, is called a *premium*. A reward bestowed without previous promise, is called a *bounty*.'[2] Such classifications of the various types of premiums offered by the societies are differentiated only with hindsight. Contemporaries of the premium system did not make any explicit distinction between them. According to the *New Dictionary of Arts and Sciences*, 'premiums' and 'bounties' were both direct rewards carrying no future privileges paid to inventors or the producers of nationally valuable economic products.[3] In this study, premiums and bounties will be treated as one and the same as they were both awarded for new ideas, methods, or machinery.

In the second half of the eighteenth century, the premium system was regarded by many contemporaries as a plausible means of stimulating innovation as well as a way of encouraging the widespread adoption of improved methods. Shipley's *Scheme* for the Society of Arts recognized that 'if considerable premiums were given to the inventors,...the improvers, ...and the greatest of all to those who shall most amply execute, or cause to be executed, the said inventions or improvements, it may be presumed this would be attended with beneficial consequences.'[4] Similarly, one of the founding aims of the Bath and West in 1777, was 'to excite *by premiums* a spirit of emulation and improvement in such parts of husbandry as seem most require it'.[5]

The premium system operated by the early agricultural societies was mainly derived from the working model provided by the Society of Arts.[6] This in turn was based on

[1] Wood, *History*, p. 22.

[2] J. Bentham, *The Rationale of Reward* (1825), p. 38.

[3] *A New Dictionary of Arts & Sciences* [etc.] **3** (1754), p. 2528.

[4] T. Mortimer, *Concise account*, p. 16.

[5] B.W. *Rules and Orders* (1777), p. v, own emphasis.

[6] The wording of the 'Rules and Orders' of both the Society of Arts and Bath and West display a striking similarity, There is no doubt that when the Bath and West was founded, it looked to the

Shipley's *Scheme* which had set out a plan for the conduct of the premium system. The earliest premiums offered by the Society of Arts were pecuniary premiums. However, the offer of honorary premiums was suggested to the Society of Arts from an early date. The individual merits of both pecuniary and honorary premiums were explained by Henry Baker in a paper he read to the Society of Arts on 24 March 1756:

> Whoever would lead Mankind, even to their own Good, must take Advantage of their passions; amongst which the Desire of Gain and the Desire of Esteem are two of the most prevailing...the Desire of Reputation and Esteem is Strongest in the most Ingenious and Most Ingenuous Minds, and can set those Heads and Hands to Work which the Hopes of Gain can give no motion to; Undoubtedly Your Premiums in Money are in general the best Encouragement to the Mechanic, the Manufacturer, and the Planter and to all the multitude in whom the Desire of Gain prevails but may we not suppose that some Honorary Token of Esteem would more effectually bring to your Assistance the Scholar, the Philosopher, and the Gentleman of Estate.[7]

In this paper, Baker went on to propose that the Society of Arts, which up to this time had only offered money premiums, should start awarding medals as honorary premiums. His rationale was that some may prefer medals to money 'as such a Token of Honour and Regard is lasting, and may be handed down to posterity' while 'money is soon spent, and Leaves no memorial behind...the Expectation of a medal may produce as much Public good as the Hope of a large Premium.[8] Baker's proposal was referred to a committee for consideration on 31 March 1756. This committee reported on 7 April that they were of the opinion that the giving of medals would be of great utility.[9] The Society's first medal, was designed by James Stuart, the painter

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more established Society of Arts for reference. As a consequence, some of the rules of both were identical. See for example, R.S.A., *Rules and Orders* (1778) and B.W., *Rules and Orders* (1777).

[7] R.S.A., Dr. Templeman' Transactions, **1**, p. 89.

[8] *Ibid.*, pp. 91, 92.

[9] H.B. Wheatley, *Medals of the Society of Arts*, p. 2. This copy, lodged at the R.S.A. library, was reprinted from Wheatley's unsigned contribution to the *J.R.S.A.* on 22 October 1881.

and architect and the die was cast by Thomas Pingo, the engraver to the Mint.[10] [See *figure 4.1*]

It was quite normal for winners to have the choice of either monetary or honorary awards:

> [For] smaller farmers, about to undertake experiments at once expensive and hazardous, a remuneration in money would be a stronger incitement than plate; while persons otherwise circumstanced would voluntarily prefer a reward which would demonstrate to their friends and posterity their merits and success.[11]

Most of the agricultural societies, with the exception of the short-lived, semi-official Board of Agriculture, were funded by private subscriptions. They took the form of the 'voluntary subscriber democracy' where money collected from subscriptions was used for their activities which were organized by an elected commitee of officials. Thus, the amounts of premiums offered by the societies were directly influenced by their level of subscriptions. Annual subscription to the Society of Arts was fixed at 'not less than' two guineas but those who could afford it paid three guineas. Peers were expected to pay five guineas a year and the charge for life membership was twenty guineas. Membership to the Bath and West was 'not less than' one guinea a year and life membership was fixed at twelve guineas.

At times, generous donations were also made by benefactors. For example, while the first premiums offered by the Society of Arts in 1754 totalled £90, the founder members were well aware that they still lacked the resources to pay these premiums. Thankfully, at the second meeting, 'the Right Hon[oura]ble Lord Viscount

[10] This is generally referred to as the Stuart's Medal and was used for nearly half a century until the die was worn. In the years to follow, there were also the honorary palette, the John Stock medallion, the Isis medal, the Ceres medal, the Vulcan medal, the Society's medal and the Albert medal, Wood, *History*, pp. 316-20.

[11] B.W., *Rules and Orders* (1801), pp. 11-12.

SOCIETY'S ORIGINAL MEDAL, 1757.

VULCAN MEDAL.

CERES MEDAL.

ISIS MEDAL.

THE SOCIETY'S LARGE MEDAL (FLAXMAN).

THE SOCIETY'S LARGE MEDAL (WYON).

Figure 4.1 : The Society of Arts' Early Medals
Source : H.T. Wood, *History of the Royal Society of Arts* (1913).

Folkestone and the R[igh]t Hon[oura]ble Lord Romney have generously promised to make up whatever Deficiencies may happen on that Account.'[12] The Bath and West had a number of patrons who donated substantial sums of money to be distributed in premiums. For example, twenty guineas of the Duke of Somerset's annual fifty guinea donation to the Society was offered for a number of years as a premium for the best cultivated farm in the western counties. Even more prestigious was the Royal Patron's premium. This was a donation from the Prince of Wales, George (later George IV) and was usually a piece of plate worth fifty guineas. In certain years, up to three fifty guinea plates were on offer. It was not unusual for the 'Rules and Orders' of a society to include a section specifically for bequests. For example, clause 27 of the Bath and West's first 'Rules and Orders' in 1777 contained the following form, 'In Case any Person shall be inclinable to leave a Sum of Money to this Society':

> *Item*, I give and bequeath to A.B. and C.D. the Sum of ..... Pounds, upon Condition, and to the Intent that they pay the same to the Treasurer, or Secretary, for the Time being, of a Society instituted at Bath 1777, who call themselves 'The Society for the Encouragement of Agriculture, Arts, Manufactures, and Commerce'; which said Sum of ..... Pounds I will and desire may be paid out of my personal Estate, and applied towards carrying on the laudable Designs of the said Society.[13]

The offering of premiums for agricultural improvements was by no means a straightforward matter. For instance, in settling the terms of an offer, a clear idea about the ultimate purpose to be served by it was needed. If the subject was the cultivation of turnips, was the intention to get more farmers to grow turnips, or to get those who grew turnips to grow more, or to improve the quality of turnips produced, or to encourage better methods of cultivation, or to popularize new varieties? These

[12] Quoted in Hudson and Luckhurst, *Society of Arts*, p. 9.

[13] B.W., *Rules and Orders* (1777), pp. 10-11. The Society of Arts had an identical form, R.S.A., *Rules and Orders...*(1778), pp. 54-5.

were questions that had to be settled before a premium could be offered. In general, the offer and award of premiums were subjected to the following considerations:

1. whether the object for which the premium was proposed was an important one with more than temporary significance;
2. the precise requirements to be stipulated as the basis of competition;
3. whether the prize consisted of money or a medal;
4. how many prizes should be offered, and what should be their value;
5. how long the time limit should be;
6. the best means of certification;
7. whether competitors needed to be given any preliminary information on the subject of the offer;
8. whether any permanent record in the form of a written account, drawings, or, in the case of machines, a model should be required.[14]

After deciding on which premiums to offer, the societies were still faced with the question of safeguards to ensure that as far as possible, claims submitted for premiums offered were genuine. For example, the Society of Arts demanded a certificate of authencity to be submitted with the claim. John Crow of Faversham, a successful candidate for a prize for madder-growing in 1773 submitted the following certificate to the Society:

Feversham, October 31st, 1772.

These are to certify, that I, John Crow, of the parish of Feversham, in the country of Kent, have dug up, from one acre, and one perch of ground, fifty-one hundred, one quarter, and twenty-six pounds of dry and clean madder roots: of which I have sent a sample of seven pounds weight, of the same quality as the whole parcel. Witness my hand,

JOHN CROW

N.B. The above madder was three-years growth, and no more; and grew in a field known by the name of Cutthorn, in the parish aforesaid.

[14] Hudson and Luckhurst, *Society of Arts*, p. 12.

Sworn before me, the day and year above written.

EDW. JACOB, Deputy Mayor of Feversh.

Sworn before me,

RICHARD LUSHINGTON, Mayor.

The above madder was weighed in our presence, viz.

RICHARD MARSH, Vicar of Feversham.

JAMES TAPPENDEN, Attorney at Fev.

JOHN CRESWELL,

THO. MORRIS, } Church-wardens.

HENRY ANDERSON.

JOHN BALDWIN.[15]

This careful system of certifcation was essential for substantial sums of money were at stake. Fraudulent claims were not treated lightly. Candidates found out to be making false claims to the Bath and West were 'not only forfeit such Premium, or Bounty, but be declared incapable of obtaining any for the future.'[16] Great emphasis was also placed on the impartial assessment of entries:

> If a profound secrecy is previously enjoined to the competitors, in all cases that will admit of it, under the penalty of being for ever excluded the benefit of the premiums, it is thought there can be no room for prejudice or partiality.[17]

The practice of sealed envelopes was not uncommon and candidates submitting their premium claims were requested to observe the following procedure:

> To prevent all partiality, it is required that all maters for which Premiums are claimed to be delivered in without names, or any intimation to whom they belong. That each particular model, specimen, design, &c. be marked in what

[15] *Ibid.*, p. 59. In spite of such precautions, the Society was seriously defrauded in at least one case. This will be discussed in the next section of this chapter (4.2).

[16] B.W., *Rules, Orders...* (1777), pp. 15.

[17] Shipley, *Scheme*, see APPENDIX 3.

> manner the claimant thinks fit, such claimant sending with it a sealed paper, having on the outside a corresponding mark, and on the inside the claimant's name and address.

The papers were not opened unless the candidate was sucessful. The unsuccessful claims were returned, unopened and if not reclaimed within two years, 'they shall be publicly burnt, unopened, at some meeting of the Society.'[18] Since entries were anonymous, it permitted the judges relative impartiality in the evaluation of the entries.

The supervision and operation of the premium system were left to specialist committees concerned with specific areas such as agriculture and planting, chemistry, or mechanics. Their main tasks were to propose subjects for premium offers and assess claims for premiums. Subjects for premiums were often selected at meetings where they were put forward by individual committee members, discussed and agreed. These suggestions were then presented to the annual meeting for final approval where the premiums offered and awarded were decided. These premiums mostly reflected the perceived need of the day, which explains the striking similarity between the premiums offered by the societies.

These tended to fall under the following categories: agricultural operations, chemistry, crops and plantations, essays, industry & good behaviour, livestock, mechanics, soils and manures, and wool. Agriculturists could win awards ranging from two guineas to ten guineas or more for growing particular crops (for example, turnips, carrots, or hops); raising superior livestock (for example, the best ram, or the most efficient plough team); or adopting a better agricultural technique (for example, using a drill-plough); or improving agricultural implements (for example, the most efficient double-furrow plough); or for essays on particular topics (for example, the nature of manures). Premiums were also offered to the 'deserving poor', such as agricultural labourers who raised large families without parish aid.

[18] R.S.A., *Rules and Orders...*(1778), p. 53; B.W., *Rules, Orders...*(1780), p. 56.

While the distribution of rewards for successful experiments or inventions was the principal device by which the societies sought to attain their goals, it was not the only one. The premium system operated by the agricultural societies demanded a commitment to communication from the innovating farmer to the public. Premiums were useful in securing and producing information. However, this information once gathered and generated, had to be communicated by publication or exhibition. It was obviously of little use to stimulate invention or to reward improvement unless full information of the results obtained could be made public.[19] The diffusion of knowledge by means of publication and exhibition was vital to success of the premium system. Premiums and publication were seen as part of the same process of stimulating agricultural improvement.

A notable contribution to agricultural improvement in the eighteenth century was the prize essay system. Premiums were frequently offered for dissertations on agriculture-related subjects and then published in a society's transactions. However, prize essays only constituted a part of the activities of the societies. The Board of Agriculture under John Sinclair's leadership devoted much of its time to encouraging the submission of essays and selecting those which were suitable for publication, much to the chagrin of its other members. It is evident from its records that several members and its Secretary, Arthur Young were growing increasingly restless and discontented by 1797 because the Board was only giving premiums for essays and not for general agricultural improvements. The Board's premiums, it seems to have been felt by Sinclair, its founder, should encourage the academic approach and thus were predominantly offered for essays. These both occupied the members of the Board as judges and gave it material for its publication. As Arthur Young later complained in 1806, Sinclair 'considered all premiums as a deviation from his sole object of incessant printing'.[20] At this time, other societies were already offering prizes for

[19] The era of specialized national journals was still to come and local society journals, with their wide spread of information formed a necessary step in the evolution of the present day journal.

[20] Brit. Mus., Add. MSS. 34855, fos. 13, 14; note by the editor of his *Elements*, W.de St. Croix, labelled 'Mem. Board of Agriculture, 1806' which he claims is by Arthur Young, Mitchison, 'Old board', p. 54, fn. 4.

crops, livestock and agricultural machinery. The members of the Board felt that prize essays took up too much of their time which should have been devoted to promoting other more practical aspects of agricultural improvement As a result, they rebelled and at a general meeting in March 1798, Sinclair was defeated by one vote and Lord Somerville took over the Board's chair. Somerville was extremely sympathetic towards the 'ordinary farmer' and disliked excessive surveys, 'profuse publications in husbandry, however, meritorious in themselves, without the...aid and support of practical husbandmen.' He wanted to devote the Board's funds to premiums for labourers for long service and for encouraging local societies.[21] In general, most societies maintained a balance between promoting both theoretical and practical agricultural improvement.

The premium system was also widely adopted by agricultural societies because of popular hostility to the patent system. Contemporary opposition to patents and monopolies is evident in the practice of agricultural societies not to award premiums to patented practices:

> As by their plan, of most extensive kind
> Public Utility's alone designed
> No Person can a Premium e'er obtain
> Who shall the Royal Letters Patent Gain
> Arm'd with the sanction of the Sov'reign's Name
> Solely to vend and profit by the same
>
> Shou'd any man some useful Thing invent
> For which they promise (with good intent)
> Ample Rewards, to over pay his Pain,
> Provided he that Secret will explain
> (That common Benefit may thence arise)

[21] Sinclair later returned to the chair of the Board in 1805 'under promises of good behaviour'. He retired in 1814. *Ibid.*, pp. 56-7, 59.

Nor will the general sale *monopolize*.[22]

From an early date, the Society of Arts' position with regard to the patent system was clarified, 'no person will be admitted a candidate for any premium offered by the Society who has obtained a patent for the exclusive right of making or performing anything which such premium is offered.'[23] As a result, there was little overlap between the Society's awards and the patent system. The founders and early members of the Society of Arts had hoped that the patent system would eventually fall into disuse. Between 1759 and 1764, the Society's premiums and bounties in the categories which might have produced patentable inventions - for example, chemistry, manufacture and mechanics - actually exceeded the number of patents granted. However, in the years from 1764 to 1774, the number of patents taken out was more than twice that of the Society's awards.[24] [See *table 4.1*]

Until 1842, inventors who received premiums from the Society of Arts were barred from patenting their inventions. However, in the early 1840s, under the influence of an energetic group of reforming members with engineering patents and interests, the Society reversed its traditional hostility to patents and started making information on both patented and unpatented inventions readily available through the *Transactions*, by discussion at weekly meetings and by displaying models in the Repository.[25] The

[22] G. Cockings, *Arts, Manufactures and Commerce: a Poem* (1766), p. 26. George Cockings was the appointed porter at the Society of Arts in 1775. In 1779, he became Registrar (originally spelt 'Register') of the Society till his death in 1802.

[23] R.S.A., *Rules, Orders...*(1765).

[24] D.G.C. Allan, 'The Society for the Encouragement of Arts, Manufactures and Commerce: Organization, Membership and Objectives in the First Three Decades, 1755-84, an Example of Voluntary Economic and Social Policy in the eighteenth century' unpub. PhD thesis (Univ. London: 1979), p. 197.

[25] R.S.A. Min., 2 March 1842; *R.S.A. Trans.* **56** (1945), p. xiv; J. Harrison, 'Reform of the Society and the Patent System' *J.R.S.A.* **128** (1980), pp. 231-4; J. Harrison, 'Some nineteenth century Patent Practitioners connected with the Society of Arts' *J.R.S.A.* **130** (1982), pp. 494-7, 548-94, 670-4.

Year	No. of Premiums Awarded	No. of Patents Granted
1759	17	10
1760	13	14
1761	17	9
1762	22	17
1763	19	20
1764	19	18
1759-64	*107*	*88*
1765	19	14
1766	16	31
1767	13	23
1768	9	23
1769	5	36
1770	4	30
1771	8	22
1772	6	29
1773	12	29
1774	7	35
1765-74	*99*	*272*

Table 4.1 : Number of Society of Arts premiums compared with the number of patents granted, 1759-1774.

Source : RSA, Register of Premiums; W.M. Wyatt, 'Account of the Number of Patents granted for Inventions, from the year 1675 to 1829', Appendix B.1, *Report of the Select Committee on the Law Relative to Patents for Inventions* (1829), p.216. Both series can only be compared approximately as not all patents were for subjects which would have qualified for premiums from the Society and vice versa.

Bath and West stated in its *Rules and Orders* that 'no Patentee will be allowed to offer his invention for any premium of this Society.' However, they were 'always happy to receive models of any patent invention, reserving to themselves a power of giving encouragement to such as in their opinion possess great intrinsic merit.'[26] Thus, even though patented inventions could not compete for premiums, the Society was

[26] B.W., *Rules, Orders...*(1814), p. 18.

not averse to purchasing them for the Model Room and encouraging farmers to adopt them. For example, the Bath and West had a model of the Revd James Cooke's patented drill-machine in its Model Room and had recommended its use in its journal.[27]

Such a pattern of premiums formulated and adopted was to remain essentially unchanged throughout the eighteenth and nineteenth centuries, although there were additions and deletions when the need arose. For example, during periods of epidemic - such as the foot-and-mouth disease in cattle, or swine fever in pigs - whole categories were omitted. Later, when the societies began to hold peripatetic shows, it was necessary to add a class or two of premiums to cater for some specific agricultural interest in a certain locality.

The scope of the agricultural premiums offered was very wide and these were published in annual lists. However, the societies were quite ready to reward any useful proposal submitted that was not stipulated on the list. In some instances, the same offer was repeated year after year, sometimes over a long period, even though premiums had already been awarded to numerous successful competitors. The premium system did not operate on a 'one-off award' basis, rather, premiums were regarded as grants-in-aid, to be repeated for as long as there seemed to be any need for such assistance. A handful of farmers winning a few premiums did not necessarily mean that the same premium should no longer offered to the majority of farmers who still required encouragement. Because the premium system was not operating on a 'first past the post' basis, it was in the position to reward effort towards, and improvement on, inventions. The philosophy of the premium system was 'taking a hopeful view of every suggested improvement and new invention rather than that genius should be neglected or merit go unrewarded.'[28]

There were no rigid rules which governed how the premium system was operated. Moreover, the system itself was in its infancy and thus, there was much room for

[27] *Letters and Papers*, **3** (1786), p. 262.

[28] Lewis, *Century of agricultural progress*, p. 84.

modification and reinterpretation. Generally, individual societies tailored the premiums to local or regional needs. Thus guided by this loose structure, the agricultural societies of the first period (*c.*1750- *c.*1799) aimed to foster a spirit of improvement among agriculturists and diffuse the latest methods of husbandry to the farming community through the offer and award of premiums. The next two sections will discuss the premiums offered and awarded by the Society of Arts and the Bath and West for agricultural improvement.

4.2 THE SOCIETY OF ARTS

It is surprising that a 'Society of Arts' in the eighteenth century should have concerned itself with agriculture. According to its founder, William Shipley, the object of the Society was to encourage what was loosely termed as 'industry' by rewarding meritorious discoveries, invention and advances with premiums. At the time, agriculture was not perceived as being separate from industry and the early members of the Society were not averse to the idea of encouraging agricultural improvement. In 1760, the Society received a letter from Peter Wyche that pointed out that it was the Society's duty to take the lead in matters agricultural because the ordinary husbandman, through an ignorance which was no fault of his own, would continue to cultivate '*more maiorum*, however stupid that might be.' As a result of this suggestion, an agricultural committee was appointed. This committee included Henry Baker; Benjamin Franklin; Sir Thomas Robinson, the rebuilder and replanter of Rokeby; Sir George Savile, the Whig politician; Thomas Hollis, F.R.S.; Thomas Gregnon, the clockmaker; Alexander Small, inventor of the chain plough and Robert Dossie.[29]

The premium system was the most popular part of the Society's work and this and the Society's other activities were funded by private subscriptions. Shipley had hoped for some sort of government assistance in the early days and in a letter to Benjamin Franklin in September 1755, anticipated 'that we shall soon be incorporated and perhaps may have grants from Parliament sufficient to promote by Premiums Things

[29] Hudson and Luckhurst, *Society of Arts*, p. 63.

of the Uttermost Public Utility.'[30] However, in spite of Shipley's optimism, the Society did not receive any financial support from the State.[31] Furthermore, the Society only obtained a Royal Charter in 1908, some 150 years after Shipley first voiced his hopes of incorporation. Nonetheless, the Society's finances never suffered from the lack of official patronage. *Table 4.2* illustrates the increasing income of the Society from subscriptions.

Year	Income (£)
1755	360
1756	632
1757	1,293
1758	1,731
1759	2,001
1760	3,482
1761	3,656
1762	4,533
1763	4,614
1755-1763	*22,302*

Table 4.2 : Income of the Society of Arts, 1755-1763.
Source : H.T. Wood, *History of the Royal Society of Arts* (1912), p. 21.

The total receipts for the years 1755 to 1763 was £22,302 and total expenditure was £18,756, of which £8,496 went in premiums. At first, the premiums were always pecuniary and these ranged from two to fifty guineas. However, from 1758 onwards, gold and silver medals were also offered. Silver medals came in two sizes. In 1766, the 'Honorary Palatte' was devised and this was generally in silver, though sometimes in gold or silver-gilt. The palettes - a minature copy of an artists palette - were generally given for the fine arts. According to the Society's *Rules and Orders*, its

[30] W. Shipley to B. Franklin, 13 September 1755, American Phil. Soc. MSS, Franklin Paper I, 1, 38. Quoted in Allan, 'Society of Arts and government', p. 438.

[31] In 1765, the Society received a donation of £100 from the Corporation of Liverpool. However, this was not really a grant from the 'State' as such.

members were not permitted to any premium, bounty, or reward but only the honorary medal of the Society.[32]

The premiums and bounties offered by the Society of Arts followed closely the development of commercial legislation. For example, the Secretary was often asked to produce Customs figures so that the Society could assist in the national struggle to ensure a favourable balance of trade. At the very first meeting, Shipley, as Secretary of the Society, was 'desired to search the Books of entries at the Custom House' in regard to smalt, zaffer and madder imports. In this respect, the other societies may have differed from the Society of Arts. Basically, the Society felt that it should encourage the production of those materials which were purchased from abroad but could be produced at home.[33]

The first agricultural premium offered by the Society reflects such a concern. At the Society's second meeting on 29 March 1754, the decision was made to offer premiums for the cultivation of madder.[34] Madder, an ancient and important dyestuff, was at the time the principal source of red dyes. It was not grown in England on a commercial scale and a great deal of it was imported from the Low Countries. Cloth in England was sent over to there to be dyed and the Dutch did not fail to take advantage of the monopoly. The Society was anxious to establish the crop as a permanent fixture of English agriculture.

The first madder premium, a sum of £30 was awarded to Mr Thorp in 1755 'for raising and curing 20lbs of good madder'. Eight more premiums were awarded for madder between 1758 and 1761 ranging from £8 to £50. In 1763, a substantial reward of £145 was awarded to Mr Kemp and Mr Lane for planting twenty-nine

[32] R.S.A., *Rules, Orders....*(1778), p. 54.

[33] R.S.A. Min., 9 February 1757, 22 March 1754.

[34] The Society arrived at its first premium list that day and four premiums were offered in total. In addition to the madder premium, three other premiums were offered for cobalt, worth £30, and drawings by boys and girls, worth £15 each. Cobalt is a hard white metal remarkable for the brilliant colours of some of its compounds.

acres. [35] In the next year, the Society departed from the usual competitive prinicple and offered a flat rate subsidy of £5 for every acre planted with madder. This attracted a great deal of attention and in the next two years, there were thirty claimants who planted a total of seventy-nine acres, totalling £395 paid out in subsidies. It is interesting to note that Arthur Young won two premiums for planting one acre each in 1765 and 1767.[36] The campaign for madder lasted until 1779 and the last award was made in 1775 to John Crow, of Faversham. Crow, won a total of nine premiums amounting to £132 3*s.* and a gold medal between 1771 and 1775.[37] The amount of premiums awarded for madder in this period totalled £1,516 13*s.* in cash subsidies, half the figure of premiums for agriculture during the same years.[38]

For a time, the Society was successful in its encouragement of madder cultivation in England. In 1765, the *Dictionary of Arts and Sciences* stated that the production of madder 'is now again set on foot in this kingdom under the laudable encouragement of a public society.'[39] The Society itself claimed that it had stimulated the cultivation of enough madder to threaten the Dutch monopoly and that by establishing this threat, caused the price of Dutch madder to be reduced and its quality improved. The success of the premiums for madder is evident from the Customs records for madder imports which show that they dropped from nearly 20,000 cwt. in 1760 to 13,000 cwt. by 1765. Although they soon went up again, madder continued to be grown in this country in a quantity sufficient to meet only a small proportion of increasing industrial requirements.[40]

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[35] Dossie, *Memoirs,* **1**, pp. 3-5.

[36] *Ibid.*, pp. 7, 9, 13.

[37] R.S.A., *Premiums Offered...*(1775), pp. 63-87; R.S.A., *Trans.*, **2** (1784), p. 7.

[38] R.S.A., *Trans.*, **1** (1783), pp. 3-5.

[39] T. Croker, T. Williams and S. Clark, *The Complete Dictionary of Arts and Sciences, Vol.2* (1765).

[40] The French were also making a similar effort at this time. However, they had the advantage of government support and a more favourable climate for the planting of madder. The result was that from being the heaviest importers of madder, France became the leading European producer by the end of the eighteenth century. The only time the Society of Arts obtained any parliamentary

Besides its efforts to establish the production of madder, the Society also concerned itself with the planting of several species of trees and with soils and manures, both of which became subjects for awards in its second premium list in 1757. In the eighteenth century, the great forests of timber trees were steadily being depleted as a result of wood being used for domestic fuel and for industries such as iron-smelting. Furthermore, the possession of naval power was also becoming increasingly vital to the country at this time as national prosperity was inextricably linked with national defence and this meant that good quality timber was needed for the construction of a naval fleet. For this reason, the Society offered three premiums in 1757 for the planting of oak, chesnut and elm. Further trees were added to the list in the years to follow and these included fir in 1758, larch in 1773. By 1791, premiums were being offered for the planting of alder, ash, beech, chesnut, elm, fir, larch, oak and willow.

Throughout this period, the premiums for this category were honorary. Premiums of gold or silver medals were always offered for the greatest areas of ground planted with a particular species of tree. This was because the Society realized that those who would be in the position to respond to its advertisement must be landowners with sufficient means to invest capital not for their own benefit but for that of their posterity and for the national good. The first tree-planting premium awarded was a gold medal to the Duke of Beaufort for sowing twenty-three acres of acorns in Gloucestershire in 1758. In 1762, the Duke of Bedford received a silver medal for sowing eleven acres of acorns at Woburn and another silver medal in 1763 for planting 16,000 Scotch firs at Millbrook, Bedfordshire.[41]

The most number of premiums were awarded for oaks, firs and larches. The Society has been credited for popularizing the serious planting of larches in England.[42] To demonstrate the extent of the Society's success in encouraging tree-planting, one

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assistance was in the modification of a tithing law (31 Geo. II, 1755, c. 12) which was made at the Society's request to assist madder-growers. Hudson and Luckhurst, *Society of Arts*, p. 90.

[41] Dossie, *Memoirs*, **1**, p. 6.

[42] Hudson and Luckhurst, *Society of Arts*, pp. 87-8.

needs to take into account not only the efforts of the successful candidates for premiums but also that of the unsuccessful candidates. For example, in 1793, premiums were awarded for 491,000 trees. However, the total number of trees entered by all candidates for premiums was 808,000. The highest total in a single year was reached in 1806 when the number of trees planted by the successful candidates alone was 1,269,000. The last award for tree-planting was made in 1835.[43]

The Society also offered premiums for the essays based on experience and on deliberate experiments. For example, two gold medals were offered in 1757 for 'the best set of experiments with a dissertation on soils and their different natures' and for 'the best set of experiments with a dissertation on the nature and operation of Manures.' As it turned out, none of the entries were found to be 'really deserving', which is hardly surprising: in offering a prize for the study of soils and manures, the Society was at least half a century ahead of its time. The Society was equally unsuccessful when the same premiums were offered thirty years later. The significance of these two premiums lies in the Society's emphasis on experimentation. Experiment was the keynote of every agricultural activity the Society encouraged. Candidates for premiums were always required to try new methods or implements against older, existing ones, and to maintain a careful and detailed record of their experiments.

In 1762, a gold medal was offered for the best set of experiments and observations on the comparative merits of drill and broadcast husbandry.[44] This resulted in a lengthy communication between Sir Digby Legard and the Society which lasted from 1762 to 1768. In these contributions, he gave the results of a very careful series of tests

[43] R.S.A., *Trans.*, **12** (1794), pp. 321-3.

[44] *Drilling* is the sowing or planting of seeds or grains, at regular intervals, in straight rows, at a regular depth, in the earth. This is done by using a drilling machine, or a 'drill-plough' as it was first termed. In contrast, *broadcast* sowing is the scattering of seeds over the ground. These seeds are then dragged or ploughed in. As seeds are sown by hand and covered by drags and ploughs, they are placed at unequal depths and consequently sprout at different times and produce an unequal crop. Drilling in general, produces healthier and more vigorous plants. Furthermore, drilling uses less seeds and thus, involves less wastage than broadcast sowing.

carried out during those and previous years in Yorkshire. In 1766, Sir Digby received a gold medal from the Society for 'an account of the most profitable method of cultivating barley'. Gold medals were also awarded to Revd Mr H. Lowther from Cumberland, for similar experiments with wheat, William Taylor from Surrey, for experiments with lucerne, and Mr John Willy from Somersetshire with 'turneps'.[45]

The Society also conducted experiments of their own. On 4 April 1766, the agricultural committee and some thirty members met at the Green Park Coffee-house, Piccadilly and proceeded together to Mr Seymour's ground at Brompton where a trial of four drill ploughs was conducted. The first two were soon ruled out, one of them being very similar to Jethro Tull's, and the other was mechanically deficient. However, the third, designed by James Wiley, and fourth, by the Revd Humphrey Gainsborough, brother of the artist, were found to possess some improvements, so the premium of £50 was divided to £20 and £30 between Wiley and Gainsborough respectively.[46]

In 1766, the Society offered a premium for a machine for slicing turnips in response to the way in which animals often choked themselves by trying to gulp down roots too big for their gullets. Many farmers had tried to overcome this problem by slicing the roots by hand but this was a laborious and somewhat dangerous process. Dossie observed that this offer demonstrated the Society as an initiator of inventions for until it was published no one had ever thought of designing such a machine. In 1767, James Edgill of Frome was awarded received £20 for a 'Machine for slicing turnips'.[47] [See *figure 4.2*]

The Society was also willing to reward any new or improved implement which it had not advertised for in its premium lists. In 1764, a bounty of ten guineas was awarded to a Mr Ringrose for a plough for turning up heathland and a horse-thistle cutter.[48] In

[45] Dossie, *Memoirs*, **1**, p. 11.

[46] *Ibid.*, p. 12; Hudson and Luckhurst, *Society of Arts*, pp. 72-3.

[47] Dossie, *Memoirs*, **1**, p. 13.

[48] *Ibid.*, pp. 8.

1765, Robert Mackell received a generous bounty of £50 for a 'Machine for dressing wheat and malt before they are ground' and Mr Harvey received a bounty of £15 for a 'Machine for threshing corn used in Conneticut'.[49] In 1767, Mr Knowles from the Isle of Wight was awarded fifty guineas for his 'plough for draining land'; Mr Duckett £50 for a trenching plough and a three-furrow plough and Cuthbert Clarke received fifty guineas for inventing a drain plough.[50]

Besides concerning itself with new types of implements, the Society also fostered the improvement of existing implements. The improvements made on the Rotherham plough by James Small and John Arbuthnot, for example, had demonstrated that if the design on the older ploughs was modified, the vast teams of horses or oxen - sometimes numbering as many as twelve - needed to pull the old-fashioned ploughs would no longer be necessary. The Society recognized the advantages of the newer ploughs and in 1770 offered a gold medal for an 'Account on the Principles of constructing a plough so as to effectually diminish the friction'. The medal was awarded to Cuthbert Clarke in the next year. Clarke later constructed a plough according to his specification and sent it to the Society for exhibition in the Repository.[51]

The Society had built up a substantial Repository of Inventions, from as early as 1761, which contained an extensive collection of machinery. This included models of agricultural implements that had received premiums or those that were purchased. For example, it went to a good deal of trouble and expense to purchase a plough designed by Chateauvieux from Switzerland in 1765.[52] Two decades later, debarred by its own rules from giving a reward to a patented invention, the Society did all it could to publicize the Revd James Cooke's patented drill-machine.[53] The Repository

[49] *Ibid.*, p. 10.

[50] *Ibid.*, pp. 12-14.

[51] R.S.A., *Premiums Offered...*(1775), p. 72.

[52] This machine is very fully illustrated in *The Complete Farmer* (1765, 1777).

[53] R.S.A., *Trans.*, **5** (1787), pp. 76-7. Cooke also designed the first modern-type chaff-cutter.

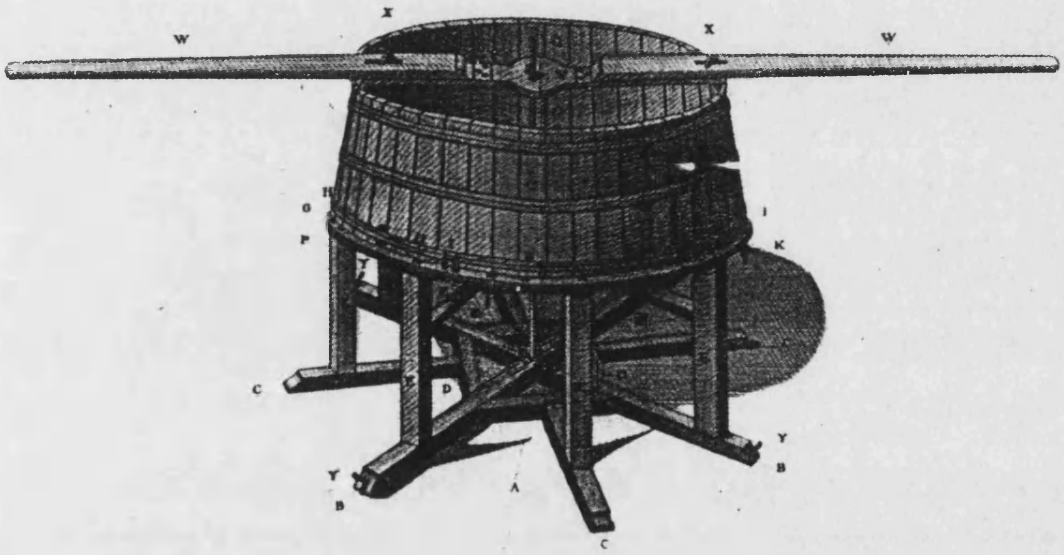

Figure 4.2 : James Edgill's root-slicer.
Edgill's slicer consisted of a wooden tub, inside which the roots were pushed round by four wooden vanes and pressed by them against a set of adjustable knives fixed on the bottom. This implement which anticipated the first patented slicer by almost forty years, appears to have been used in many parts of the country and in a test conducted by the Society's agricultural committee, two men were able to slice twelve bushels of turnips in an hour.

Source : A.M. Bailey, *One Hundred and Six Copper Plates of Mechanical Machines, and Implements of Husbandry* (1782).

was opened to the public and entrance was free. It was hoped that the farmers would examine, imitate and maybe, even improve upon these models. [54]

On occasion, the Society also encouraged their members to experiment with the planting of new crops and collating the individual results. For example, in 1786, some mangel wurzel or 'root of scarcity' seeds were given to the Society by Sir Richard Jebb, a well-know physician at the time.[55] It was suggested that both the leaves and the roots might be served as a table vegetable. J.C. Lettsom was one of the members who had received samples of the seed. He grew the seeds and tried to cook the leaves and roots but did not find the taste very appealing. He suggested, however, that the vegetable might come in use at times of scarcity as its name implied. He was more interested in the plant as food for cattle than human beings and even translated a treatise on the subject by Abbé Commerell. This was published as *An Account of Mangel-wurzel* in London in 1787.

As the Society developed, the need for some permanent record of the Society's proceedings arose. There was a proposal to publish the information contributed by competitors for premiums in a *Historical Register*. Instructions were given to Dr Templeman to prepare such a register and this resulted in two manuscript volumes. However, these consist of extracts and compilations from the minutes and seemed more concerned with preserving the Society's early history for posterity[56]. While such

[54] Descriptions and illustrations of the early machines and models held at the Society's Repository can be found in W. Bailey, *The Advancement of Arts, Manufactures, and Commerce* (1772, 1776) and A.M. Bailey, *One Hundred and Six Copper Plates of Mechanical Machines, and Implements of Husbandry* (1782).

[55] Mangel-wurzel is a beet, its botanical name is *Beta hybrida*. The seeds were sent to Jebb from Metz by Thomas Boothby Parkyns. *R.S.A. Trans.*, 5, (1787), p. 52.

[56] These volumes are still in the Society's archival collection today and are generally known as 'Dr Templeman's Transactions'. Dr Peter Templeman, M.D., was Secretary of the Society from 1760 till his death in 1769. He had given up his medical practice in London to devote himself to literature and from 1758, was Keeper of the Reading Room at the newly-established British Musuem. He gave up this post for the secretaryship of the Society of Arts., *D.N.B.*.

a record is commendable, it still left the need for a channel for the dissemination of information to the public.

For the first thirty years of its existence, many of the communications made to the Society were published as pamphlets, or in the *Gentleman's Magazine* or other similar periodicals. Descriptions of some of the machines rewarded by the Society were included in an illustrated work by the Society's Registrar, William Bailey.[57] From 1764 to 1766, the Society's proceedings were reported in the monthly *Museum Rusticum.* The chief contributors to the *Museum*, which was not officially connected to the Society, were Arthur Young and Robert Dossie.[58] Arthur Young was constantly urging the Society of Arts to publish its own journal 'for the Society can never thrive till their memoirs are published regularly.[59] In a letter to the Society on 18 September 1768, he writes:

> I beg to submit to the Society's consideration, whether a regular annual publication is not the most desirable Scheme, as the most probable to keep up that attention to the Society which cannot fail to contribute in every way to its prosperity
>
> I am readier to recommend this, as you are at present in the regular habit of publishing annually a pamphlet highly to your honour, viz. the premiums you offer to excite the ingenuity and industry of the Kingdom. Much the greatest deficiency in this pamphlet is its having no price, but being given *gratis*: If the most admired productions of the age were so distributed, I believe they would neither be known nor admired

[57] *The Advancement of Art, Manufactures, and Commerce, or Descriptions of the Useful Machines and Models contained in the Repository of the Society* (1772). William Bailey received a bounty of fifty guineas for this work. In 1782, another edition was issued by his sons, A.M. Bailey and William Bailey, jnr.

[58] R. Davis, *Museum Rusticum et Commerciale* (1764-6).

[59] A. Young to the R.S.A., 12 January 1783, R.S.A. Redbook, 275.

> I speak with no slight knowledge of the circumstance when I assert that your premium book is neither seen nor heard of in the country; nor are your transactions known in any comparable degree with those of French, Flemish, German and Italian Societies that publish their transactions at a pretty heavy price. As you can be of service to the publick only in proportion to your being known, I would humbly propose that you should...publish nothing but a reformed premium book with a price fixed to it. You might call this your Transactions, for the most laudible you could engage in are offering premiums - or simply as of presenting your premiums. But added to the premiums of this year the transactions, papers rewarded, minutes of experimental committees &c. &c. of the preceding.
>
> The advantages of this plan seem to be not inconsiderable. First It would be annual and regular, without which circumstances no publication of any body of men can be attended with the celebrity due to their patriotism and labours. Second It would with every new premium or renewal of an old one, convey to the publick what had been effected by former ones, which is the principal step towards enabling them properly to claim the new. Third It would save the Society a considerable expence, and might even be made productive of profit.[60]

The Society's casual and unofficial methods of publication till this point proved unsatisfactory and Dossie entered into an arrangement with the Society to publish its communications in his *Memoirs of Agriculture*.[61] There were three volumes of *Memoirs*, published in 1768, 1771 and 1782. However, Dossie's intention to continue the series was cut short by his death in 1783.[62] Dossie's death and the discontinuance

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[60] A. Young to the R.S.A., 18 January 1783, R.S.A. Redbook, 269.

[61] Dossie, *Memoirs of Agriculture*, **1** (1768), **2** (1771), **3** (1782).

[62] Robert Dossie was a skilful chemist and accomplished writer. He was a member of the Society of Arts and a friend of Dr Johnson's. Beyond this, not very much is known of him. The only reference to him in contemporary literature appears in Boswell's *Life of Johnson*: 'Johnson was well acquainted with Mr Dossie, author of a treatise on agriculture, and said of him, "Sir, of the objects which the Society of Arts have chiefly in view, chymical effects of bodies operating upon other

of the *Memoirs* led to the commencement of a regular series of *Transactions* in 1783 that continued till 1851. In 1852, the Society began a new series of *Journals* which still runs today.

It would be quite easy to assume that the Society which originated the premium system would have had a distribution ceremony for the presentation of premiums. However, for the first twenty-five years, candidates were simply told that they could obtain their medals, palettes and money prizes on application to an officer of the Society.[63] A departure from this procedure was made in December 1780 when it was decided that the candidates would be presented with their awards by the President or one of the Vice-Presidents at the Society's meetings.[64] For the next six years, the handing out of awards 'from the chair' became a feature of the regular meetings of the Society. The final move towards the institution of an annual ceremony was made in 1786 when the following motion was passed:

> The several Candidates and Claimants to whom the Society shall adjudge Premiums or bounties be summoned by the Secretary to attend at the Society's office in the Adelphi on the last Tuesday in May 1787 at 12 o'clock in the forenoon to receive the same, and that be appointed by the Society for the distribution of their rewards for the year that terminated and before which time no Premium or bounty will be delivered.[65]

The Vice-Presidents were summoned by letter to attend and a general invitation to the candidates, their friends and the Society's members was published in newspapers. The day itself, 29 May 1787, began with the Secretary reading an 'Account of the Advantages the Public have received from the Rewards bestowed by the Society since

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bodies, he knows more than almost any man." Johnson, in order to give Mr Dossie his vote to be a member of the Society, paid up an arrear which had run on for two years.' 4 (Birbeck Hill's edition: 1887), p. 11. Quoted in Wood, *History*, p. 331.

[63] R.S.A., Letter Book, pp. 47, 103, 104.

[64] R.S.A., Min., 13 December, 1780.

[65] R.S.A., Min., 17 May 1786.

its establishment'. The annual distribution of premiums became an important social event and for many years, was held in the Society's rooms.[66]

The Society's careful system of certification, mentioned in an earlier section, attempted to ensure as far as possible that the claims submitted were genuine. However, in spite of this safeguard, it was seriously defrauded in at least one occasion. A certain Dr John Stephens, of Lincoln's Inn Fields, who was a member of the Society, fraudulently obtained a total of £195 over a period of eight years from the Society. Stephens' idea was to send in a forged certificate with a fictitious name for the growing of some crop for which the Society had offered a premium, and then, some time later, appear at the Society's offices with a letter claiming to be written to him by the fictitious candidate and asking him, as a member of the Society to collect the premium on his behalf.[67] Ultimately, the fraud was discovered through Stephens' own misjudgement. On one occasion, he had submitted a claim in the name of an actual living person. Perhaps he thought this would add to the authenticity of his claim. However, years later, the man concerned heard of the premium which he had supposedly received from the Society of Arts and enquiries were made into the case. Stephens obviously heard about the situation, conveniently disappeared and was never arrested.[68]

With the exception of this incident, the Society's premium system progressed smoothly. Between the Society's inception in 1754 and 1782, £3,281 8*s.* and a total of seventy-seven gold and thirty-one silver medals were awarded in agricultural

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[66] When attendance grew so large, a move was made to the Freemasons' Hall in 1816 and in 1822, Drury Lane Theatre. A military band was engaged, a body of stewards organized, and a staff of policemen was engaged to regulate the traffic. Menzies, *Story*, pp. 6-7.

[67] The receipts given by Dr Stephens and several of his forged certificates are still in the possession of the Society. 'The varied handwritings and signatures upon which he so cleverly executed that it is no wonder that they completely hoodwinked the Society's officials, and the committee.' Hudson and Luckhurst, *Society of Arts*, pp. 59-60.

[68] The following notice was issued by the Bow Street magistrate, 'Dr John Stephens is a comely person near six feet high, clear complexion, Dark Brown Brows, formerly with a full Bob Wig but of late wore either a Bag or a Queue and is about forty years of Age.' Quoted *Ibid.*, p. 60.

premiums.[69] During the first seventy years of the Society's existence, agriculture was put at the top of the list of its activities. As a national society that promoted agricultural improvement, the Society of Arts anticipated the Board of Agriculture by forty years and the RAS by eighty. In the 1750s, the Society offered relatively straightforward premiums for agriculture such as the sowing of acorns. Having taken these first tentative steps, a more confident tone is discernible from the 1770s onwards. The Society was very precise in framing its offers, stipulating the kind of trials required and giving detailed instructions for carrying them out. Indeed, this has led its historian to conclude that 'the Society was for long mainly an agricultural society.'[70]

4.3 THE BATH AND WEST SOCIETY

The Bath and West was formed in the autumn of 1777 specifically for the purpose of stimulating agricultural improvement after Edmund Rack placed an advertisement in several local papers inviting the nobility and gentry in the west country to form 'a Society for the encouragement of Agriculture, Planting, Manufactures, Commerce and the Fine Arts'. At the first general meeting that November, the aims of the Society were set out. The principal objectives were to encourage agricultural improvement; to provide a channel for the exchange and dissemination of information; to carry out and publicize experiments in those areas most needing it; and to improve all aspects of husbandry through the award of premiums. These premiums were funded by subscriptions to the Society. By the end of 1777, the Secretary announced that he had received some £350 to be distributed for premiums. The first premium list, agreed to that December, was divided into three separate classes: Agricultural and Planting, Manufactures and Commerce and Mechanics and Arts. Of the thirty-nine premiums offered, twenty-three were for agricultural improvements.[71] [See *table 4.3*]

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[69] R.S.A., *Trans.*, **1** (1783), pp. 3-5.

[70] Wood, *History*, p. 116.

[71] Premiums for the use of livestock, agricultural crops and techniques were offered under the 'Agriculture and Planting' class. Premiums for the improvement or invention of agricultural implements and machinery were offered under the 'Mechanics & Useful Arts' class.

Offered under Class 1: Agriculture and Planting	Offered under Class 3: Mechanics and Arts
Turnips (weight of crop)	Machine for conveying green winter crops off wet arable land
Turnips and Beans	Machine for sowing carrot seed
Destroying the fly on turnips	Machine for sowing horse beans
Hoeing turnips	Machine for cutting and bruising woad
Setting wheat	Small portable crane
Winter vetches	Machine for floating pasture lands
Summer vetches	
French or Buck wheat	
Falling pigs (epilepsy in pigs)	
Sainfoin	
Carrots	
Planting apple trees	
Breeding and rearing calves for oxen	
Rearing calves without milk	
Onions	
Planting birch	
Planting bogs with ash	

Table 4.3 : Agricultural premiums offered by the Bath and West, 1777.
Source : B.R.O., BW Archives, 2, 9, 10, 13 December 1777.

The Secretary was ordered to get one thousand copies of the premium list printed. Every member was entitled to one and the rest were to go on sale. Fifty copies were to be sent to booksellers in the four western counties: Somerset, Wiltshire, Gloucestershire and Dorset. Copies were also placed in the 'Public Room of the principal Inns of this City and elsewhere.'[72] New premiums were offered and duly announced at the beginning of every year in the Society's premium books. Premium lists were amended and updated from year to year. These included slight changes to the terms of offer for existing premiums (for example, 'insert 5 instead of 10 acres in premium 12'); the omission of certain words (for example, 'amend the premium No. 1 by leaving out the words, red, white and green'); the discontinuance of certain

[72] B.W., *Archives*, **12**, January 1810.

premiums; or the offer of new premiums.[73] Premiums were most commonly offered for agricultural experimentation and innovation. It was hoped that premiums would give a tremendous stimulus to agricultural advance.

At the end of its first year, the Bath and West had three hundred ordinary members and fifty-four honorary and corresponding members.[74] Among this latter group were such distinguished names as Arthur Young, Joseph Priestley and Thomas Curtis.[75] Members who took an active part in the Bath and West's activities (i.e. attended meetings, contributed essays, conducted experiments and competed for premiums) numbered around fifty. The members of the Society were allowed to compete for premiums and a number of them did so with enthusiasm. Among the Society's warmest supporters was John Billingsley, who contributed regularly to the Society and won several premiums for cultivating various crops over the years. There was a very high proportion of passive members who were simply content to pay their subscriptions and to admire the work from a distance.[76] There were also a number of members who failed to pay their subscriptions. The premiums were funded by

[73] B.W., *Archives*, **5**, 9 November 1792.

[74] Such numbers were to remain the same throughout the last decades of the eighteenth century. In 1787, the Society had 266 Ordinary members and 55 Honorary members.

[75] Young was a frequent correspondent and contributor to the Society's journal. Curtis was a Vice-President of the Society till his death in 1784. A tribute to him by Edmund Rack was published in the Society's *Letters & Papers*, **3** (1786), pp. xvii-xxiv. Priestley was also a Vice-President of the Society in 1778 and sat on the Committee of Correspondence and Enquiry in 1780. Later, the Honorary members of the Society were to include Sir Humphrey Davy, the man who first isolated sodium and potassium, and more surprisingly, Teyoninhok Arawen, a Mohawk chief who was very well disposed to the Society. Davy and Arawen were elected at the annual meeting of 1804, B.W., *Archives*, **2**, December 1804.

[76] For example, the 1778 Annual Meeting was attended by only twelve people. After an appeal from the Secretary, attendance rose to thirteen in the next meeting in 1779. After that, it hovered around thirty-five for some years. Attendance improved in the 1790s. For example, the annual meeting of 1796 saw a large turnout of 138 which included among them the Marquis of Lansdowne, the Earls of Stafford, Peterborough and Galloway and Lord Somerville. The following year saw an even more spectacular turnout of 150. Among those in attendance were the Duke of Bedford, the Marquis of Lansdowne, the Marquis of Bath and Arthur Young.

subscriptions and a large part of the Society's annual income was spent on premiums. Thus, the failure of members to pay their subscriptions was a serious matter. The Society also received occasional donations. In 1796, William Benson Earle bequeathed one hundred guineas to the Society. The Secretary, William Matthews, placed a gold plaque in Earle's honour and hoped that 'it may excite in other gentlemen similar instances of publick generosity.'[77]

The premiums offered by the Bath and West were mostly in cash. These initially ranged from one guinea to ten or fifteen guineas. Later on, the Society offered premiums of £20 and £50 but these were usually donations from the more distinguised members of the Society. The larger sums could be in cash but were more usually in the form of a plate, or medal. The Society had stated in its founding *Rules and Orders* that 'until sufficient Funds be raised for offering pecuniary Premiums, the Society shall give *Honorary* Rewards for such Specimens of Ingenuity as they may be favoured with, and that, for that purpose, Silver Medals be struck, expressive of the Nature and Design of this Institution.'[78]

In this instance, it was twenty-five years before the Society actually produced its own medal although discussions about a suitable design for a medal had taken place earlier in May 1779.[79] One was eventually chosen and sent to the principal die-sinker, a Mr Westwood, in Birmingham. Eighteen months later, the specimen of the medal was finally sent to the Society but was found to be unacceptable and therefore returned.[80] There followed lengthy negotiations with the craftsman concerned who felt that some payment was due to him. The Society then suggested that it should make 'some small present, as a compensation for his trouble, although from his failing in this undertaking he cannot in justice demand it.' Finally, in 1782, £10 was sent to the craftsman 'as a compensation for his labour and the trouble he has taken in this

[77] 'Introduction' *Letters and Papers*, **8** (1796), p. xi.

[78] B.W., *Rules, Orders...* (1777), p. 5.

[79] B.W., *Archives*, **2**, 11 May, 8 June 1779.

[80] *Ibid.*, 12 December 1780.

affair'. Mr Westwood was 'well-satisfied' with this sum and no more was heard of this matter.[81]

The event which rekindled interest for a Society medal was the Duke of Bedford's death in 1802. The Duke became the President of the Bath and West in 1800, and had taken an active interest in the Society's affairs apparently to an extent that was unprecedented among the Society's Presidents. Hence, the Society decided to commemorate him with a gold medal, equivalent to the value of twenty guineas, to be offered as a premium for the greatest improvement in any agriculture-related subject.[82]

A subscription list was opened to pay for the cost of the design and die and a special committee, the Bedfordean Committee, was appointed. A premium of twenty-five guineas was offered for the selected design and eventually, a design submitted by a Miss Fanshawe was chosen. Mr John Milton of London was entrusted to engrave the die but the committee was unsatisfied with the first impressions taken from it. Things proceeded slowly and the committee finally approved of the much corrected die in August 1804. Mr Milton was paid one hundred guineas for the die and twenty guineas to make a gold medal from it.[83] The honour of receiving a Bedfordean Medal was for several years a much coveted distinction and regarded as the 'blue-ribbon' of the Society. [See *figure 4.3*]

In 1812, the Society's 'coat and buttons' were awarded for the first time. [See *figure 4.4*] These premiums were initially only awarded at the Society's sheep-shearing competitions for expertise in sheep-shearing and were awarded in addition to a premium of one guinea. As a result of a decision made at the Annual Meeting of 1817, these coats and buttons were also awarded to 'labourers in husbandry'

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[81] B.W., *Archives*, **2**, 12 February, 12 March, 9 April 1782.

[82] B.W., *Archives*, **5**, 23, 27 March, 17 April, 6 July, 3, 17 August 1802; B.W., *Archives*, **7**, 4 December 1802. The Society also commissioned Nollekens to execute a bust of him.

[83] The medal was administered under the Bedfordean Fund. B.W., *Archives* **7**, 15 February, 4, 15 November 1803; 8 May, 15 August, 24 October, 11 December 1804.

nominated by members. The buttons were commissioned from C.F. Bullivant of Birmingham and from 1818 onwards, references were frequently made to the 'Society's buttons', although the buttons were always presented complete with a 'stout coat'. The earliest description of one of these coats dates from 1819 when Mr Smith, of Smith and Crook, Devizes, attended one of the Society's meeting with a coat for inspection. The Society placed an order for twenty-five coats 'to be of the fullest and longest size...the size not to exceed 2 guins. and including the *buttons* wh. the Sec. was directed to order from Birmingham immediately.'[84]

The Society's subjects for premiums often reflected the interests of the wider agricultural community. However, they tended to be limited to the western counties:

> In forming the following Premiums, we have endeavoured to promote improvements the most apparently necessary in these counties; but these are rather to be considered as the outlines, than the general scope of our designs. As the Society's finances increase, the objects of its attention will be multiplied, and rewards offered more adequate to the subjects of encouragement, which shall uniformly tend to promote the good of the community.[85]

Premiums for the cultivation of crops were the most common. Its first premium list demonstrates its interest in the cultivation of fodder crops such as turnip, sainfoin, buckwheat, beans and winter and summer vetches. The dearth of winter feed had always led farmers to slaughter their livestock each year and salt the meat down for winter use. The extended cultivation of these crops would provide fodder through the winter. Claimants for these premiums usually had to conduct their experiments within the limitations set out clearly by the Society in the premium lists. These could be time limits or certain procedures to be followed. For example, between 1777 and 1783, six £10 premiums were awarded for turnips 'twice-hoed', and John Billingsley won ten

[84] B.W., *Archives*, **8**, January 1819.

[85] B.W., *Rules, Orders...*(1780), p. 33.

Obverse *Reverse*

Figure 4.3 : The Bedfordean Medal.
Source : BW, *Letters and Papers* **10** (1805).

Figure 4.4 : The Bath and West Society's button.
Source : K. Hudson, *The Bath and West* (Bradford-upon-Avon:1976).

guineas for 'drilled carrots'. In 1786, seven guineas were awarded for 'Hand-hoeing turnips' and three guineas for 'Horse-hoeing Beans and Pease, with Mr Winter's Machine.'[86]

The next largest number of premiums were offered and awarded for and in aid of the 'deserving poor'. For example, the improvement of labourers' cottages was a common theme through the years. In 1791, a premium was offered for a design for six cottages 'the most roomy, healthy and conveniently divided, containing not less than 2 Rooms a Floor and wch. shall not exceed the cost of £40 or at most £50 each cot., saving in price to be a principal Merit'. In 1801, a more comprehensive premium was offered to the landowner who built 'the greatest number of cheap durable and comfortable cottages, in proportion to the extent of his estate, for poor industrious Labourers to inhabit and who shall annex a portion of land not less than a ¼ of an acre to each cottage'.[87] The Society also had a special category of premiums for farm workers, for 'long and faithful servitude' and for bringing up large famillies without resorting to parish aid. The first premiums were awarded in 1778 to Barnabas Marshall, of Enford who had served Robert Baden for twenty-four years; Mary Hacker, of Puddimore for thirty years loyal servitude and Mary Bennet, of Nettleton, for thirteen years of faithful service. The first two received premiums of three guineas each and the third, two guineas.[88] In its first twenty years, the Society awarded £415 2*s.* to 147 claimants.[89]

In comparison, £67 16*s.* 6*d.* was expended on agricultural operations in the same period. Most typically, the Society offered premiums for the use of new implements in an attempt to overcome the prejudices and discrimination of the farmers and labourers

[86] B.W., *Rules, Orders...*(1783), pp. 55-7; (1786), pp. 65-6.

[87] B.W., *Rules and Orders...*(1791); B.W., *Rules and Orders...*(1801).

[88] B.W., *Archives*, **2**, 8 December 1778. The premium for a prize ram in the same year was ten guineas. This apparent discrepancy in the 'value' of servants and that of prize animals was later used by the cartoonist, Leech, in his satirical comment on the premium system in 1846 which coincided with the declining popularity of the premium system in the 1840s. This will be discussed later in FIVE (5.3).

[89] B.W., *Rules and Orders...*(1797).

against them. In 1782, the Society offered three premiums for the 'Use of the Drill-Plough and Horse-Hoe'. The reason given in the premium book was elaborated as follows:

> Complaints having been frequently made by Gentlemen Farmers, that their servants and labourers are so prejudiced against the use of New Drill Ploughs, or improved implements in husbandry, that they will often either not work them properly, or spoil them in order that they may return to the use of those commonly employed.[90]

These premiums were awarded to the Earl of Pembroke, for ploughing 500 acres with the Norfolk plough, drawn by two horses, in 1783 and to Mr Vagg's ploughman for 'his great readiness of skill' in the use of the same implement in 1785. 'This is intended as an encouragement to Farmers Servants to exert themselves in using such new implements of Husbandry as their masters may think proper to introduce.'[91]

In 1782, three guineas were also offered to 'the labouring man for hoeing three acres of turnips'. The same premium was also offered to the 'labouring woman' under the same conditions. By 1792, however, the 'labouring man' was required to hoe five acres for three guineas while the 'labouring woman' was still expected to hoe three acres but for only one guinea. It would be interesting to know what prompted the Society to change its terms of offer. Perhaps it had something to do with the introduction of a separate class of premiums for women and agricultural operations from 1786 onwards for reaping, ploughing and hoeing.[92]

The Society also conducted public trials of implements because it was aware that farmers preferred practical examples to theoretical principles. It was decided at the Annual Meeting of 1786 that a public trial of ploughs should be conducted:

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[90] B.W., *Rules and Orders...*(1782), p. 48.

[91] B.W., *Archives*, **2**, 12 April 1785.

[92] B.W., *Rules, Orders...*(1782, 1786, 1792,1814).

> It being universally acknowledged that in the whole circle of agricultural practice there is nothing so interesting to the Farmer than to plow cheap & well, It is directed that fair Comparative Tryals shall be made in March next both on light & Heavy soils near Bath, with the various Ploughs generally used in the Western Counties against the Double share Norfolk, Essex, and other improved ploughs introduced by the Society.[93]

It was anticipated that prize-winning ploughs would make some sort of impact on local practices. In order to induce farmers to participate, three premiums amounting to twelve guineas in total were offered for the three ploughs which performed the best. There were also rewards for ploughmen. Notice of this match was advertised in the local papers. The date was set for 29 March 1787. Farmers were invited to participate in this ploughing competition and they were allowed to use whichever plough they wanted. A Committee of Farmers were chosen to be umpires to determine the comparative merit of the several ploughs used.[94] However, the match did not take place as planned because of the death of Edmund Rack that February. At an extra general meeting, William Matthews was elected the new Secretary.[95]

The first ploughing match finally took place in March 1788 on Barrack's farm, Wells Road, Bath. There were six competitors and John Billingsley won the first prize with a double coulter plough, drawn by six oxen. This is considered to be the first competition of its kind in this or any other country. These ploughing matches were held at least once a year and sometimes, up to four times a year.[96] At these matches,

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[93] B.W., *Archives*, **2**, 14 November 1786.

[94] B.W., *Archives*, **2**, 16 March 1787.

[95] Matthews, like Rack, was a Quaker, the son of an Oxfordshire shoemaker. He settled in Bath in 1777, first setting up a brewery, then a coal yard and then a seed and agricultural implement business which he ran from the Society's Rooms in Hetling House (now Abbey Church House). Matthews himself was an Honorary Member of the Royal Agricultural Society of Lyons. A framed certificate confirming his election and dated 30 November 1787, is in the Society's possession.

[96] Reports of these matches can be found in *Letters and Papers*. See for example, a 'Report respecting a Trial of Ploughs in April 1779', **5** (1790), pp. 471-2; and 'Report on a Ploughing Match in Hunter's Hall, near Tetbury, Gloucestershire', **12** (1810), pp. 62-6.

different types of ploughs were tested, such as the double-furrow plough and the single-furrow plough. This is because while ploughs were meant to perform the same task, they all possessed regional differences in their construction and design and were particularly adapted to suit the area from which they originated. Even the same 'type' of plough could have many variants in mouldboards and shares. For example, the double-furrow plough was very suitable for working light lands. The utility of these ploughing matches was that they demonstrated the most suitable ploughs for the west country.

The Society also offered premiums for livestock. These were concerned with stock for breeding, labour, wool, milk, and meat. Thus, it was not uncommon to find offers for the 'Best pair of Working Neat Cattle', 'Best Fat Beast', 'Dairy Cows', 'Rearing Pigs', 'Sheep most valuable for Wool' or 'Ewes for Breeding'. Premiums were also offered for experimentation with various types of feeds. Animals were fed on carefully regulated diets and results of how each performed were compared. Typically, cattle were prescribed with steamed potatoes, carrots, cabbages, clover or oilcake. Premiums awarded typically ranged from five to ten guineas and there were also instances when twenty guineas were awarded. For example, Lord Somerville won £21 in 1804. He and Dr Parry were regular premium winners of the Society.[97]

The smallest category of premiums was offered for essays. With an extensive network of corresponding members who frequently contributed essays on agriculture-related topics such as the progress of agriculture or the nature of soils and manures, the Society probably felt that it could spend its limited financial resources on encouraging other areas of agriculture. Furthermore, especially in the area of agricultural chemistry, the Society was essentially operating at a time when such knowledge was not advanced enough to understand, much less explain the fundamental questions of agriculture. This was a fact well-recognized by the more enlightened agriculturists of the day:

[97] B.W., *Rules, Orders...*(1804, 1807).

> What is that substance, matter or thing, which is the true and only proper food of plants; which enters into the vessels appointed by nature to receive it...Various are the opinions of the learned concerning this matter. Some suppose the food of plants to be water; some, earth; others air, nitrous salts, oil, etc. etc. perhaps all of them wide enough of the mark. It must be confessed, we know nothing of the essence of things.[98]

Thus, premiums in this category were often limited to a few which asked agriculturists to ascertain the properties of soils or manures. Arthur Young won the first gold Bedfordean medal for his essay on the nature and properties of Manures. Two hundred copies of this essay were printed for distribution in pamphlet form and subsequently reprinted in Society's journal, *Letters and Papers*.[99] Premiums were frequently offered for dissertations on subjects which they considered to be of significance to agricultural progress and such prize-winning essays were published in the journal. Unlike the Society of Arts, the Bath and West started publishing almost immediately. Arthur Young had communicated his opinions on publication to the Society at an early date:

> A Society that does not publish its transactions may be of a partial, limited, and confined utility, but can never diffuse the knowledge it rewards nor render the successful efforts of individuals the means of general improvement.[100]

He also mentioned the failure of the Society of Arts to publish in its first few decades but continued, 'I am, however, happy enough to add that they have entered upon that essential work at last, so that the world may hereafter expect to partake in that mass of valuable information which they have hitherto been too solicitous to spread.'[101] The Bath and West recognized the importance of publication for the diffusion of knowledge from an early date:

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[98] *Letters and Papers*, **3** (1786), p. 275

[99] *Letters and Papers*, **9** (1799), pp. 97-198.

[100] *Letters and Papers*, **2** (1783), pp. 1-2.

[101] *Ibid.*, p. 2.

> As the diffusion of useful information in general is one end proposed by this institution, the Society think they cannot fulfil this intention in a more effectual manner than by the publication of such papers as appear to contain what is most likely to be of public utility. Indeed, this is the only method by which the various improvements, and practical information, suggested to them, can be generally dispersed, even among those whom, from the nature of their institution, they are under particular obligation to serve.[102]

Young advised, 'By all means publish your Transactions; what you do is not for your own district alone, but for a much larger sphere.'[103] The first volume of *Letters and Papers* appeared in 1780. Every subscribing member was entitled to a copy of this journal and the rest were sold at bookshops in London and the four counties for a small price. This was one of the earliest publications of its kind in the country. However, it appeared irregularly and terminated with Volume 15 in 1829. This was re-launched as a second series in 1853 . There were six series altogether.

In addition to publishing prize essays, the Society also collected 'useful information' for publication in *Letters and Papers.* For example, in 1778, the Committee of Correspondence and Enquiry had decided that a general knowledge of the best modes of practice in all the different parts of the country was essential to the success of their land scheme. Accordingly, they drew up a list of questions on which they wanted information and promptly sent these off to the high sheriff of each county, requesting that they forwarded these to suitably qualified persons to answer the queries and return them to the Secretary. As a consequence, they received a curious assortment of useful practical knowledge and superstitious notions. [104]

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[102] *Letters and Papers*, **1** (1780), p. ii.

[103] Quoted in Murch, 'History and literature', p. 146.

[104]The circulation of questionnaires was a method of enquiry dating back at least as far as the seventeenth century. It was used by the Royal Society's Georgical Committee in the 1660s. See TWO (2.4). However, the Royal Society received only eleven reports. It was a cumbersome and inefficient method of collecting information from distant sources. However, it was the only alternative to travelling before the country's diverse farming practices were adequately recorded in print and when

The Society also printed letters containing practical instruction, such as the one which contained a description of a system of cooling meat immediately after slaughter in order to improve its keeping qualities:

> Let [the animals] be fasted a day or two in a cool house. Kill them in the evening, and as soon as the skin is taken off, hang the carcase between two doorways where there is a current of air. Then get a fan, such as is used for winnowing corn, and place it to windward of the carcase, and let a man turn the fan for the whole night. In the morning, the carcase will be cold and stiff, let the weather be ever so hot. A putrefaction will not immediately follow, because the fluids are at rest. Carcase butchers, and people that kill for the navy, would find their account in having slaughter-houses near to some rivulet of water, where a wheel might be placed to turn a fan and many carcasses hung up at a time for the benefit of the wind. By this method, a considerable quantity of lost meat might be annually preserved; for in hot sultry weather, when no wind is striving, meat will taint before it is cold.[105]

A survey of the early volumes of *Letters and Papers* demonstrates the Society's emphasis on experimentation and record-keeping. Premiums offered for prescribed courses of experiments often required competitors to keep records of their activities and communicate them to the Society:

> Much advantage is frequently derived from circulating accurate accounts of real and practical experiments in agriculture. They are abundantly preferable to volumes of mere speculative theory, which often perplex and mislead, than instruct the practical farmer. In cases where new experiments have succeeded,

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few published accounts were available of practical experiments in agriculture. The findings of the Bath and West questionnaire were published in *Letters and Papers.* 'Circular List of Queries sent by the Society at Bath to the High Sheriff of the different Counties in England', *Letters and Papers*, 1 (1780), pp. 52-9.

[105] 'To prevent or keep meat from putrification', *Letters and Papers*, 2 (1783), pp. 300-1.

> they are worthy of imitation: And where in similar circumstances they have failed, may prove useful warnings to others. It is therefore earnestly wished, that gentlemen who cultivate lands, and sensible farmers in the several counties, would communicate in writing explicit accounts of all new and interesting experiments which they make.

Thus, guidelines were also included for the candidates to follow in their reports to the Society as 'the knowledge of these particulars are necessary to the forming a just estimate of every experiment':

1. The nature of the soil, its depth, and value per statute acre per annum.
2. What manure is used, when laid on, and in what quantity.
3. How many ploughings, and of what kind the crop was the preceding year.
4. What quantity of seed sown, at what time, and how the season proved.
5. What the produce, when cut, and of what value.
6. The nett expence, profit or loss, of the experiment.[106]

Such premium-winning entries were reproduced in *Letters and Papers.* [107] At times, these accounts would also include the costings of an experiment such as the one submitted by Mr Joseph Wimpey of North Bockhampton in Dorset. [See *figure 4.5*] The Society hoped that in publishing such precise accounts, other farmers might be encouraged to be equally systematic.

Attention was also frequently paid to new implements and machinery in the journals. These often included drawings and descriptions of the implements. As early as 1780,

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[106] B.W., *Rules, Orders...*(1783).

[107] Examples of such accounts include, 'Method of Making Resevoirs in dry Countries, for watering Sheep and Cattle' *Letters and Papers*, **1** (1780), pp. 68-9; 'Experiments to ascertain the Use of Soaper's Ashes and Feathers as Manures', *ibid.*, pp. 130-1; 'Some supposed Advantages of the Drill to the Broadcast Husbandry pointed out' *Letters and Papers*, **2** (1783), pp. 205-9; 'Instructions for Raising Potatoes' *Letters and Papers*, **3** (1786), pp. 292-99; 'An Experiment made in Planting Wheat' *ibid.*, pp. 340-3; 'On a more speedy Method of propagating Rhubarb', *Letters and Papers*, **4** (1788), pp. 177-8.

the exhibition of Mr Blancher's drill plough at the Society's Rooms was announced in the journal. Furthermore, it had been 'tried by our Agricultural Committee, in a field, and found to deliver the grain with great exactness and regularity, quite to the satisfaction of the Gentlemen Farmers who attended the experiment.'[108] Like the Society of Arts, the Bath and West had a Model Room where implements and machines, or models or drawings of them were left for the inspection of gentlemen and farmers. These were either sent by the members, competitors for premiums, or purchased. It was hoped that this collection would provide for the diffusion of new inventions and innovations in the west country.

For a time, the Society also conducted its own agricultural experiments. This was because of its belief in the importance of practically testing all alleged improvements before recommending them to others:

> Theory without practice, is similar to a shadow without substance. But when reasoning is founded on science, combined with experiments minutely attended to, it is from thence only the ingenious Artist or Agriculturist is enabled to draw such conclusions as are of real utility.[109]

In 1779, the Society decided to acquire some land for this purpose and by the spring of 1780, a site had been found and approved by Edmund Rack. Ten acres were taken at Weston, on the outskirts of Bath, on the farm of one of the Society's members, Mr Bettel. At this experimental farm, experiments and trials of various kinds were carried out by Mr Bettel on behalf of the Society, under the supervision of an Experimental Committee. This scheme eventually petered out after about ten years due to defective management and disagreement among the parties involved. [110]

[108] *Letters & Papers*, **1** (1780), p. 5 .

[109] Winter, *New and compendious system*, p. 13.

[110] B.W., *Archives*, **2**, 13 April, 11 May, 10 August, 14 December 1779.

EXPENCES.

A clean ploughing in winter —	0	12	0
Dragging in February ——	0	3	0
40 loads of long dung, and carriage	4	0	0
Spurling ditto — —	0	2	0
Plowing in the dung ——	0	12	0
Striking furrows with double-plough	0	6	0
Planting and cutting potatoes —	0	6	0
Covering them with double-plough	0	6	0
Sets 15 ſacks at 3s. ——	2	5	0
Ploughing intervals from the rows	0	6	0
Earthing up the plants ——	0	6	0
Taking them up, ploughing up, drawing home, ſtacking, &c. 3 horſes, man, and boy 5 days	1	10	0
One man, one woman, 5 days -	0	7	6
Boys and girls — —	0	5	9
A year's rent —— ——	2	0	0
—— ——		13	7 3
Nett profit on 2 acres ——.		£.20	7 9

or 10l. 3s. 10½d. per acre.

Figure 4.5 : Joseph Wimpey's Expenses
Source : 'An exact account of the produce, expence and nett profit of two statute acres planted with potatoes' *Letters and Papers*, 5 (1790)

Claims for premiums received were carefully assessed and referred to the appropriate committee. For example, in December 1778, two models of portable cranes were submitted to the Society. These were referred to the Committee on Mechanics who after examining the two models reported that the first model sent from Norfolk was too complex in its construction to be easily made by common workmen; too expensive for common use even if made and too bulky because of its weight & the length of its tail such that it was hardly portable at all. Of the second model, they felt that it was much too slow in its operation, that it was too awkward and that it did not possess any significant improvement from those already in use. However, the efforts of the two men did not go unnoticed and it was subsequently decided at the Annual Meeting that the maker of the first model will receive five guineas and the maker of the second model two guineas for their efforts.[111]

However, not all claims were so swiftly assessed and there were claims which involved long, drawn-out negotiations. For instance, in 1778, Robert Davies of Minehead presented the Society with several rhubarb plants that he had raised from seed.[112] At the time, the Society was interested in the cultivation of the True Rhubarb, or *Rheum Palmatum*, a variety grown not for the sake of its stalk but for its root. Dried and powdered, it was much favoured by doctors for its medicinal use as an aperient. It was imported from China and the Middle East and thus, was expensive to buy. Consequently, there was every incentive to try and produce it in England. For a time, a Committee on Rhubarb was formed and on the Society's behalf, Dr Falconer tested and reported on Davies' plant in considerable detail. He carried out experiments with patients at the General Hospital in Bath to discover its 'purgative virtue' and found that 'its operation was in every respect such as might be expected from the best foreign rhubarb' and the specimen was 'extremely good in its kind; very little if at all inferior to the best brought from Russia, Turkey, and fully sufficient to supply the want of foreign Rhubarb.'[113]

[111] B.W. Archives, **2**, 8 December 1778.

[112] *Ibid.*, 8 September, 10 November 1778.

[113] *Ibid.*, 13 October 1778.

Such was the interest in rhubarb that it drew a large correspondence and several more specimens from different parts of the country. One member sent notes on rhubarb cultivation given to him by 'a friend resident in Russia', and another gave instructions on the best way of drying the roots. As for Robert Davies, the end of the saga did not come until 1792. In 1784, he wrote to complain that he had sent in ten pounds of rhubarb root to get the £50 premium offered by the Society then. He had expected to receive this premium but had apparently been disqualified on the grounds that he had received a silver medal from the Society of Arts for growing rhubarb in the same year. Davies insisted that this medal was 'an accidental honorary token, procured for him by one of his friends and was not worth more than 5*s.*' and in his disappointment, had written to remonstrate with the Society's Secretary, Rack. He received no reply to his letter and wrote again, insisting that his ten pounds of rhubarb was returned or the £50 premium paid. Rack evidently replied, stating that the rhubarb could not be returned as it had already been used for experiments but he thought the Society would make him a present of a piece of plate equal to the value of the rhubarb. There is no copy of Rack's letter but five years later, after further pressure, Davies finally received a piece of plate valued at five guineas 'as a full Equivalent for the Rhubarb'.[114]

Premium winners of the Society's premiums had the choice of receiving their award either in cash or in the form of a piece of plate, or a medal to the same value. It would be safe to conclude that the middle and upper classes took the honorary reward while the labouring class chose the money. The system of presenting the premiums was by award at the annual meeting:

> Agreeably to customary practice, a Distribution of the Premiums Awarded at the last annual meeting took place this day. Most of the successful Claimants who chose Plate were present and received their awards at the hands of the Hon[oura]ble Baronet in the Chair. The Chief of the Premiums belonging to

[114] B.W., *Archives*, 5, 10 December 1792.

> claimants of the inferior Class were deposited with the Secretary till called for.[115]

By the beginning of the nineteenth century, the operations of the Society each year included general meetings in the months of February, April, June, September and November, a ploughing match in the summer, and in December, the Annual Meeting at Hetling House and an exhibition of stock and implements in the Society's yard in St. James's Street. The December proceedings lasted for three days and included a public dinner. The new century also saw the resignation of William Matthews and the election of Nehemiah Bartley as the new Secretary, by ballot.[116] One of Bartley's first tasks was the complete revision of the book of *Rules, Orders, and Premiums* in view of the Society's limited funds. A Committee headed by Benjamin Hobhouse was appointed for this purpose. The Committee met sixteen times.

It proposed first to omit those existing premiums which came under the following considerations: (1) whether the premium offered was of doubtful or inconsiderable utility; (2) or was already sufficiently known and generally practised; (3) whether it was not strictly within the scope of the Society; (4) or which other Societies had directed their particular attention, or for which they offered larger rewards; (5) or whether the premium offered was so valuable that no reward the Society could offer would operate as any inducement; (6) or was undefined, or too complicated; (7) or was included in other premiums. Secondly, the Committee recommended that all premiums should be honorary or pecuniary at the option of the successful candidate. The reasoning behind this was that to a smaller farmer about to undertake expensive experiments, a remuneration in money would be a stronger incitement than a piece of plate of the same value. However, persons 'otherwise circumstanced', would voluntarily prefer a reward that would demonstrate to their friends their 'merit and success.' Thirdly, the Committee proposed that the premiums should be arranged in a more organized manner. This is because new rules and premiums had been continually introduced over the years without having been properly incorporated into the existing

[115] B.W. *Archives*, 7, 9 February 1808.

[116] B.W. *Archives*, 5, 11 February 1800.

book of *Rules, Orders and Premiums.* Lastly, they also recommended that a revision of the premium book take place once every three years. As a result, the 1801 premium list was divided into ten classes. It occupied forty-five pages of text and a total of 198 premiums were offered. [117]

Occasionally, the Society also benefited from various donations, of which a sum would be devoted to the offering of 'special premiums'. These often involved larger sums of money, usually twenty or fifty guineas, and thus, often headed the list under such prestigious titles as the 'President's Premium' or the 'Royal Patron's Premium'. Sir Benjamin Hobhouse was President of the Bath and West from 1805 to 1817 and in 1806, he donated one hundred guineas to the Society.[118] The Society decided to utilize part of that sum to offer a special premium under the heading of the 'President's Premium'. Consequently, twenty guineas were offered for the 'Best Anglo-Spanish Sheep' in 1808 and 1809 and for the 'Best Bull and Cow' from 1810 onwards.[119] The first of these was awarded to Richard Reynolds of Devon in 1813.[120] In 1817, Hobhouse resigned owing to ill health and from 1818 onwards, even though the subject for premium offer remained unchanged, this premium was duly renamed the 'Sir Benjamin Hobhouse Premium'[121] The Hobhouse premium generated a lot of interest and was awarded annually.

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[117] The ten classes of premiums offered were categories as follows: Livestock; Wool; Soils and Manures; Crops and Plantations; Agricultural Operations; Industry and Good Behaviour; Mechanics; Chemistry; Useful Arts; and Essays. 'Report of the Committee for Revising the Book of Rules, Orders, and Premiums for the year 1801', B.W., *Rules, Orders...*(1802), pp. 9-12.

[118] 'Introduction' *Letters and Papers* **11** (1807), p. xviii; B.W., *Archives*, 7, 12 November 1806.

[119] B.W., *Archives*, 7, 18, 19 December 1809; B.W., *Rules, Orders...*(1808-1817).

[120] B.W., *Archives*, 7, 14 December 1813. Reynolds had won three of the Society's livestock premiums previously in 1809, 1810 and 1811 whch amounted to a total of twenty-five guineas, B.W., *Rules, Orders...*(1810, 1811, 1812).

[121] B.W., *Rules, Orders...*(1818). At the end of his presidency the Society commissioned a bust of him and its sculptor, Francis Chantrey, received a silver Bedfordean Medal for it, B.W., *Rules, Orders...*(1820), p. 34.

In 1816, the Duke of Somerset donated fifty guineas to the Society which in turn used this sum to offer two premiums for best cultivated farm in the western counties - thirty guineas for a farm consisting 'not less than' 200 acres of arable land and twenty guineas for a farm with 'not less than' 100 acres of the same. Response to this premium was not as good as that to the Hobhouse premium and it was consequently reduced to a single twenty guinea premium for a farm of unspecified size. The first and for a long time only one, Duke of Somerset premium was awarded to Thomas Kington in 1816.[122]

On occasion, the benefactor also tried to influence the subjects chosen for premium offers. In June 1809, the Prince of Wales became Patron of the Society and it was announced that His Royal Highness would pay an annual subscription of fifty guineas.[123] Initially, the Prince 'waived the command of any object on which to bestow a Premium to the amount of his benefaction but left it to the wisdom and experience of the Society to appropriate it in a manner most gratifying to themselves.'[124] There was some debate as to how this sum might be most suitably and profitably used at a general meeting in December that year. The Society proposed to offer two 'Royal Patron Premiums', one for the best Shearling Ram and a Pen of five Shearling Wethers' and the other for the cultivation of hemp.[125] However, 'difficulties having presented themselves respecting both the subjects which had been contemplated', it was subsequently decided at the annual meeting the next day that the fifty guineas would be offered for the cultivation of turnips for autumn feeding in the Forest of Dartmoor.[126]

It then turned out the Prince was a little disappointed about this, 'his wish was by his first premium to encourage the Cultivation of Hemp on Dartmoor', a subject that the

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[122] B.W., *Rules, Orders...*(1815, 1816, 1817).

[123] The Society approached the Lords Lieutenants of Somerset, Wiltshire, Gloucester, Hampshire and Devon, inviting them to become Vice-Presidents. Apparently what was good enough for the Prince proved good enough for them and they all accepted, B.W., *Archives*, 7, 13 June, 12 December 1809.

[124] *Letters and Papers*, 12 (1810), p. viii.

[125] B.W., *Archives*, 7, 18 December 1809.

[126] *Ibid.*, 19 December 1809; B.W., *Rules, Orders...*(1810), p. 28.

he felt strongly about.[127] In a letter to the Society, his Surveyor General in the Duchy of Cornwall, Benjamin Tucker, gave the total expenditure of the Navy on hemp during the recent wars and pointed out that most of the hemp used was imported, particularly from Russia. Tucker also emphasized the Prince of Wales' belief that imports on this scale were both unnecessary and unwise, and that properly encouraged and instructed, 'the patriotic Exertions of the Landed Interest...may soon enable the Empire to dispense with all precarious foreign Supplies of an Article of such Importance and Magnitude of Expense.'[128]

On the Society's behalf, Hobhouse explained 'the Cause of our Noncompliance' in a letter to Tucker:

> Having understood that the Prince was desirous of holding out an Inducement to sow Hemp on his Territory at Dartmoor, an Article of such Importance to our Navy, the Society would have had the greatest Gratification in making that the Subject of His Royal Highness's first Premium. But it is unnecessary to point out to you, Sir, that it would take more than one year to prepare the Ground, and bring to Perfection a Crop of Hemp. On this Account, it was impossible to assign His Royal Highness's Premium for this year to the Cultivation of Hemp.[129]

As a result of this communication, it was resolved at the annual meeting in December that the Royal Patron's Premium should be offered 'for the Cultivation of Hemp' in 1811. The Society obviously did not wish to incur the displeasure of the Prince or lose his 'munificent' Royal patronage.[130]

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[127] 'B. Hobhouse to the Secretary of the Bath and West Society, 18 April 1810', *ibid.*.

[128] 'B. Tucker to B. Hobhouse, 12 June 1810'; ', *ibid.*; 'On the Importance of Cultivating Hemp in the United Kingdom', *Letters and Papers*, **12** (1810), pp. 324-7.

[129] 'B. Hobhouse to B. Tucker, 13 March 1810', B.W., *Archives*, 7, 18 Dcember 1809.

[130] B.W., *Archives*, 7, 18 December 1810; B.W., *Rules, Orders...*(1811).

In addition to this, two other fifty-guinea premiums were offered for growing turnips and for an essay on the 'best means of improving wastelands'. However, there was no response to the hemp premium and the Society, obviously feeling more confident, at least for having tried, dropped it from its premium list for 1814. Instead, three Royal Patron's Premiums were offered for the cultivation of cabbages in Dartmoor for autumn feeding; a machine for 'reaping Wheat or Corn'; and 'For cultivating on marshy or boggy parts of the Forest of Dartmoor with Fiorin Grass'. From 1815 to 1818, the Royal Patron's Premium was offered for the 'Best Treatise on the Soil and Climate of Dartmoor'. From 1819 onwards, it was offered for the cultivation of flax in Dartmoor. There is no evidence that any of these premiums were ever awarded.[131]

On the whole, the Bath and West operated on a much smaller scale than the Society of Arts. It was, after all, a provincial, and not a national, society. The amount spent on premiums was much more modest than that of the larger national society. Some members were of the opinion that the Bath and West did not spend enough on premiums. In the first twenty-two years of the Society's existence, approximately £1,450 was expended on premiums. In comparison, the Society of Arts had spent £16, 625 in the same time span, a difference of some £15,000. However, the Society was aware of the extent of its resources and was obliged to live within its income:

> To the several Gentlemen who have wished to promote a large increase of high Premiums to be offered by this Society, it is but fair to remark that such pressing proposals seem to be often made without considering the strength of a fund mostly composed of *guinea* subscriptions, and applied to many objects. It is the endeavour of the Society at its Annual Meetings to extend its encouragement as far as possible; but where gentlemen, after subscribing a guinea a year, are more intent on *the profit* of getting back twenty, than on diffusing *a variety* of useful knowledge, for the public good, they must be likely to suffer some disappointment, and perhaps the Society some unavoidable censure.[132]

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[131] B.W., *Rules, Orders...*(1811-1820).

[132] *Letters and Papers*, **10** (1805), p. x.

It is quite remarkable how much the Society managed to achieve in its early years on a very small income. The earliest statement of accounts to survive is for the year ending December 1783. It showed total funds in hand to be £477 1*s.* 6*d.*, of which £277 1*s.* 6*d.* were at the bank and the remainder in cash elsewhere. The biggest expense was always the payment of premiums, which absorbed half the annual income. Subscriptions so far received totalled £499 6*s.* 5½ *d.*, but many members were in arrears. This was a nagging problem for the Society which persisted well into the new century and was to become the primary reason for its precarious finances in the first half of the nineteenth century. Nonetheless, in its first period of development (1777-*c.*1820), it had spent a great deal of money on premiums to encourage experimentation and innovation; built up an extensive correspondence with agriculturists both at home and abroad; published the kind of articles and letters which it believed would help to raise the general level of efficiency in the west country; and collected useful information, drawings and models from all parts of the country. Thus, one can safely say that the Society had gone a long way towards fulfilling the objectives of its founder-members.

✧

Fuelled by a spirit of patriotism, the early agricultural societies believed that in encouraging agricultural improvement, they were promoting the public good. They saw themselves as agents for the dissolution of the isolation which characterized the ordinary countryman's existence in the eighteenth and the early nineteenth century. Many contemporaries saw the premium system as the best method of exciting a spirit of enquiry and diffusing agricultural innovations. Perhaps this is the most significant contribution of the early societies in the latter half of the eighteenth century. They managed to foster an interest in agriculture and encourage a taste for experiment in wider society by initiating a comprehensive range of experiments and publishing the results:

> Useful hints...of the speculative kind, which may, in their consequences, lead to practical improvements, have not been neglected; --- such will always be

> esteemed as valuable communications, although inferior to those that have already been submitted to the test of experiment.[133]

This critical approach to the documentation of novel experiences in the field were the roots of the commitment to the application of scientific methods to agriculture for the later societies during the second period.

[133] *Letters and Papers*, 1 (1780), p. v.

5. LATER SOCIETIES AND AGRICULTURAL IMPROVEMENT

The second period of significant development of agricultural societies began in the late 1830s and continued over the next few decades. The impetus for agricultural improvement had noticeably diminished during the agricultural depression in the immediate post-war years. However, towards the end of the 1830s, English agriculture began to emerge from the depression and the enthusiasm for agricultural improvement was renewed. The setting up of agricultural societies in the 1830s and 1840s was part of a general effort to revitalize and redirect farming. One new feature in their operations was the peripatetic agricultural show that displayed livestock, agricultural implements and machinery. The fundamental concern of these later societies was the application of science to agriculture. The premium system was still regarded as the key to stimulating advances in agriculture. However, the Victorian premium system differed from its Georgian predecessor because it was conducted in conjunction with the peripatetic agricultural show. Premiums were offered and awarded for livestock and implements exhibited at these shows. The first English agricultural society to hold a large-scale peripatetic show was the RAS. Others who soon followed included the Yorkshire Agricultural Society and the Bath and West.

5.1 WAR AND DEPRESSION

In 1803, Arthur Young listed the names of twenty-three agricultural societies known to him in his *Annals of Agriculture*. A year later, he addressed these societies, hoping that their 'laudable exertions' might be made better known through the publication of accounts of their activities in his periodical.[1] In 1799, Sir John Somerville, president of the Board of Agriculture, had praised the 'very beneficial' exertions of existing societies but considered that there were too few in number and lacked the means by which to make their activities widely known.[2] Enthusiasm for such societies was

[1] 'A.Y.', 'Agricultural societies', *Ann. Agric.*, **40** (1803), pp. 476-7; 'To the societies for the Encouragement of Agriculture in the British Empire' *Ann. Agric.* **41** (1804), pp. 25-7.

[2] 'On provincial farming societies' *Comm. Bd Agric.* **2** (1800), p. 456; John, Lord Somerville, *The system followed during the last two years by the Board of Agriculture...*(1800), p. 40.

growing. Yet their number was still small and each society functioned with remarkably little knowledge of what was being done elsewhere.

Seventy-five years later, by contrast, the movement had reached maturity. Virtually every English county had several of its own societies and agricultural periodicals and newspapers carried numerous reports of their activities. In the space of three-quarters of a century, the agricultural society had become a characteristic institution of the English countryside. This period saw a growth in the number of agricultural societies from about thirty-five in 1800 to about six hundred in the early 1870s.[3] This dramatic increase in the establishment of agricultural societies took place after the 1830s. It reflected a more general trend that was taking place in society at the time. When Charles Dickens celebrated the activities of the Mudfog Association in his first periodical, *Master Humphrey's Clock* in 1837, he was recording one of the most pervasive, diffuse, and amorphous social developments of the past two hundred years. The creation of such voluntary associations was not new but what was new in Dicken's generation was the increase in their number, variety and public importance that took place, especially after 1830.[4]

There had been a brief interregnum in the establishment of agricultural societies during the first quarter of the nineteenth century. The earlier enthusiasm for

[3] Macdonald warns that 'both figures must be regarded as approximations but the seventeen-fold increase in numbers in the space of three-quarters of a century is of the right order of magnitude.'Fox, 'Local farmers' associations', pp. 43, 46.

[4] Some of the societies which operated in Leeds during the 1830s and 1840s illustrate the variety and profusion of societies formed up to that period. These included the Benevolent or Stranger's Friend Society (1789); the House of Recovery (1804); the National School Society (1812); the British and Foreign School Society (1813); the Philosophical and Literary Society (1819); the Leeds Guardian Society (1821); the Child Bed Relief Society (1823) the Leeds Public Dispensary (1824); the Mechanics' Institute (1824); the Infant School Society (1826); the Law Society (1828); the Temperance Society (1830); the Church District Visiting Society (1833); the Literary Institute (1834); the Leeds Horticultural Society (1837); the Town Mission (1837); the Medical Society (1838); the Leeds Friendly Loan Society (1844); the Leeds Tradesmen's Benevolent Association (1844); and the West Riding Trades' Protection Society (1848). Morris, 'Clubs, societies & associations', pp. 395, 411-12.

agricultural improvement noticeably diminished with the fall in agricultural prices after the end of the Napoleonic Wars in 1815. The period 1814-35 was a period of prolonged and extraordinary distress for English farmers. In large measure, it had arisen as a consequence of the artificial buoyancy of English farming during the French Revolutionary and Napoleonic Wars. In this period, poor harvests, low imports of wheat and inflationary government corn purchases had sustained high prices. There had also been a spate of enclosure and a large extension of land under cultivation. Farmers had borrowed heavily and banks had lent readily.[5] However, this inflationary bubble burst towards the end of the wars. The 1813 harvest was a bumper one and the prices of wheat, barley and oats began to tumble. The price of wheat - the perennial yardstick of agricultural prosperity - more than halved between January 1813 and December 1815, and was not to recover for some twenty years after. During the 1820s and 1830s, English agriculture was by no means uniformly depressed but there were recurrent outbreaks of agricultural 'distress'. The heavy arable regions were most affected, as grain prices fell more than those of meat and wool, and because the heavy clays were more expensive to work than lighter soils. In all, it was a relatively barren period for agricultural improvement.[6] The interest in agricultural progress was replaced by clamours for legislative support of agriculture such as a high level of protection, currency reform and abolition of the malt tax.[7]

By the 1820s, the original impetus for agricultural improvement had faded and the questions selected for premium offers became increasingly general. This tendency towards greater generality was because members of the agricultural societies were losing interest in agricultural matters. Many entertained the idea that the improvements made in agriculture in the last few decades had been so great that the

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[5] A.R. Wilkes, 'Adjustments in Arable Farming after the Napoleonic Wars' *Agric. Hist. Rev.* **28** (1980), pp. 90-103.

[6] Compounding this widespread agricultural depression was the general deflationary trend in the British economy which persisted until mid-century, W.W. Rostow, *The British Economy of the nineteenth century* (OUP: 1948); B. Murphy, *A History of the British Economy, 1740-1970* (1973).

[7] Many agriculturists attributed the low prices of the 1820s and 1830s to the deflationary effects of Peel's Currency Act of 1819 which returned the country to the gold standard. See T.L. Crosby, *English Farmers and the Politics of Protection* (1977), pp. 57-8.

objectives of these societies had been accomplished. This was especially so in a county such as Norfolk. A contributor to the *Farmer's Magazine* wrote:

> I believe much of the apathy in this county arises from the high opinion it entertains of its own proficiency in agriculture, which opinion has been fostered and maintained by the character always given of it by other counties.[8]

The general feeling was that agriculture had attained a state of 'perfection' and thus, could no longer be improved upon. In the 1820s, the Society of Arts announced that 'the object of the Society in the early and enlightened liberality with which they fostered the most important of the practical arts, agriculture, has for the most part been accomplished.'[9] The Society's waning interest led to a sharp decrease in the number of awards in agriculture. By 1827, the premium list consisted of general offers, for example, for 'machines performing any agricultural operations'. Occasional premiums were awarded for agricultural implements but these were neither numerous nor important. Eventually the agricultural premiums ceased altogether and the Society of Arts seemed quite content to leave the direction of agricultural improvement to the numerous agricultural societies. *Table 5.1* illustrates the sharp decrease in the number of premiums offered by the Society for agricultural improvement.

In this period, there were very few initiatives to form agricultural societies and those already in existence faced a precarious and uncertain future. In the case of the Bath and West, the problem of members in arrears persisted and became so serious that in 1813, the Secretary, Robert Ricards, was driven to printing a black list of the defaulters in the hope of shaming them into payment. A Henry Hunt, esq. was expelled after sending abusive replies to requests for payment of his arrears of

[8] 'Rusticus', 'On the Advantages Resulting from the Establishment of Agricultural Societies' *F.M.*, **3** (1839) p. 135.

[9] R.S.A. *Trans.* **37** (1819), p. vi.

Year	Agricultural Premiums Offered
1786	105
1791	154
1795	145
1799	140
1803	90
1807	54
1811	60
1815	62
1819	58
1823	49
1827	24

Table 5.1 : Agricultural Premiums offered by the Society of Arts, 1786-1827.
Source : RSA, *Premiums Offered...*(1784-1826).

subscriptions.[10] In one particularly disgraceful instance, the Committee reported that:

> ...a Coat was drawn for the Servant of a member whose subscription was at the time five years in arrear, he having never paid more than one guinea and that in another instance a Coat already delivered has actually been withheld in consequence of alleged ill conduct on the part of the Servant.[11]

In 1819, the Secretary, Benjamin Leigh Lye, was praised by the Finance Committee for his 'meritorious exertions' in writing nearly three hundred letters to persons in arrears and by this means, extracting £341 13*s.* from them. However, this measure did not sufficiently revive the Society's failing finances. In 1820, the income from subscriptions fell from £591 in the previous year to a mere £288. As a result of falling

[10] 'General Report of the Committee of Superintendence' B.W. *Archives*, **13,** 6 December 1819.
[11] *Ibid.*.

subscriptions, the number of premiums offered decreased. [See *table 5.2*]. Lye voluntarily took a 50% pay cut in 1821 and in 1822, the Committee of Superintendence reported:

> While this meeting did realize with regret that there has been a considerable reduction in the receipts of the Society, it did not fail also to notice that the expences have been so diminished as to leave but a small balance against the Society. It is hoped that by care and attention in offering and lessening Premiums and by the strictest economy in the management of the affairs of the Society the disbursements will be kept at the lowest possible point and that it may surely be left to the zeal, spirit and perseverance of the members and friends of the Institution to prevent its receipts from suffering a further decrease.[12]

Year	Premiums Offered
1789	129
1799	182
1809	142
1819	112
1829	72

Table 5.2 : Total Premiums Offered by the Bath and West, 1799-1829.
Source : BW, *Rules, Orders and Premiums* (1789, 1799, 1809, 1819, 1829).

The interest in the Society's activities was continually decreasing and in 1834, one member, writing in to withdraw his subscription, stated that the Society was not conducted as it used to be. There were also instances when 'the *great coats* so drawn as a reward and encouragement to their Servants have never yet been claimed by the Masters.'[13] Nevertheless, the Society continued to conduct its business as normally and as best it could. In 1836, the Committee of Superintendence reported a larger than usual turnout at the annual ploughing match and came to this conclusion:

[12] 'Report of the Committee of Superintendence' B.W. *Archives* **13,** 1822.

[13] 'General Report of the Committee of Superintendence' B.W. *Archives* **13,** 6 December 1819.

> [This] may be taken as a gratifying evidence, that, notwithstanding the numerous Agricultural Societies which are every where springing up around us, the leading objects of this most ancient Society are not becoming less useful or less attractive.[14]

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While the Bath and West managed to get by with limited funds, other societies were less fortunate. The Board of Agriculture was one such society. In 1813, Edmund Cartwright, an honorary member, wrote to Arthur Young, criticizing the Board as having 'its spirit and energy...much abated' He hoped that it would revive with the peace. However, the peace increased the economic problems and the problems of English agriculture.[15] There are no surviving minute books from 1808-17 but it is clear that there were traces of inactivity and aimlessness coming over the Board and very little was done under the presidency of the Earls of Hardwick (1814-16, 1819-21) and Macclesfield (1816-19, 1821-22). Faced with an unsupportive membership and the withdrawal of its government grant in 1820, it was extinct by July 1822, a mere twenty-nine years after its foundation. There were attempts to keep the Board in operation by private subscription. Annual subscription was put at two guineas and 250 copies of the *Communications* were offered to anyone who would make a £20 life subscription. However, this proved an insufficient inducement. In the agrarian slump of the 1820s, the enthusiasms of an earlier period for increased production fell flat. The onset of the post-Napoleonic agricultural depression made the farming community a very unpopular group in wider society. They were held responsible for the scarcity and costliness of food and thus were the last persons to be supported. There was no effective demand for agricultural societies and the easy optimism of men like John Sinclair was out of tune with the mood of the time.[16]

This brief overview of the economic conditions of the post-war period is of particular relevance to the development of agricultural societies. After the hiatus of the first quarter of the nineteenth century, there appears to have been widespread renewed

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[14] 'Report of the Committee of Superintendence' *Rules, Orders...*(1836), p. 47.

[15] Brit. Mus., Add. MSS. 35131, fol. 555, E. Cartwright to A. Young, 27 November 1813.

[16] Mitchison, 'Old board', pp. 61, 64-5.

enthusiasm for setting up agricultural societies during the second quarter.[17] To mention the more conspicuous ones, the English Agricultural Society was founded in 1838, obtained its Royal Charter in March 1840 and became the Royal Agricultural Society (RAS). The Farmers' Club was set up in London in 1844. This period also witnessed a remarkable proliferation of provincial agricultural societies, such as the Yorkshire Agricultural Society (hereafter referred to as the YAS), throughout England and Wales and with it, a change in the face of the countryside and rural activities.

5.2 AGRICULTURAL SOCIETIES: THE SECOND PERIOD, 1830 ONWARDS

During the period *c.*1830-50, there emerged a nucleus of zealous and influential landowner-agriculturists, concerned with making English agriculture more scientific. This core group consisted of some of the most influential individuals involved in the scientific reform movement during the years spanning the mid-century. These included the third Earl Spencer, Philip Pusey, Harry Stephen Meysey Thompson and Thomas Dyke Acland. 'Thus, in a period of extreme depression, an absolutely essential clearing was made for the foundation of high farming' and for the advent of the second generation of English agricultural societies.[18]

This enthusiasm was due to several factors, some of which have been provided by the promoters of agriculture during the period. H.S. Thompson, one of the founders of both the RAS and the YAS, suggested that the period was 'one of those recurring fits of associative activity to which Englishmen are periodically prone.' He explained that this widespread enthusiasm for setting up agricultural societies was simply 'the

[17] Even though England was recovering from the depression, a number of its features, such as fluctuations in prices and often painful structural changes, persisted until the 1850s. Chambers and Mingay, *Agricultural revolution*; E.L. Jones, *The Development of English Agriculture* (1968); Orwin and Whetham, *British agriculture*; V. Hall, *A History of the Yorkshire Agricultural Society, 1837-1987* (1987), p. 23.

[18] Earl Carthcart, 'Sir Harry Stephen Meysey Thompson, Bart.' *J.R.A.S.E.* (2) **10** (1874) p. 525.

application to agriculture of the same tendency to organize companies which was so strongly developed about that time and culminated in the railway mania of 1845-6.'[19]

Another explanation for the enthusiasm to form societies in this period was offered by Earl Carthcart. He argued that the many troubles attending English agriculture in the twenty years after the Napoleonic Wars created a deep need for systematic rural reform. This need, he felt, was met in part by legislation passed during the 1820s and 1830s. New currency laws led to the setting up of joint-stock banks nationwide. The Reform Act of 1832, which widened the franchise, was followed by the Tithe Commutation Act of 1836. The Railway Acts facilitated an explosion in nationwide communication. The opportunities afforded by the new railway network led to a new generation of show-organizing agricultural societies concerned with the scientific principles of farming.

This new enthusiasm was also partly a response to the increasing population. Like the eighteenth century societies, agricultural intensification was perceived as essential to counter the dire Malthusian predictions of population outstripping food supply. The proposed English Agricultural Society's programme of agricultural development would increase the supply of food to meet the constantly increasing demand:

> Such a society will speedily, by promoting better modes of cultivation, and consequently increasing the produce of the land, do away with all fears of over-population, and render emigration needless, which many of the most philanthropic men in England have, at considerable personal trouble and cost, promoted to avert the evils of war, pestilence, and famine, from what Mr Malthus supposes to be the tendency of mankind to excessive population.[20]

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[19] H.S. Thompson, 'Agricultural Progress and the Royal Agricultural Society' *J.R.A.S.E.*(1) **25** (1864), p. 1.

[20] C.W. Johnson, 'The Intended British Agricultural Society, its Uses, and its Importance' *F.M.* **8** (1838), p. 163. At this time, 'systematic colonization' was seen as another way of confronting the problem of over-population. This term was coined by Gibbon Wakefiled who designed plans for colonies in Christchurch, New Zealand and Adelaide, South Australia.

Like the eighteenth century societies, the premium system was still perceived as important for encouraging agricultural improvement. A contributor to the *Farmer's Magazine* states the aims of a society he was proposing for East Norfolk:

> The legitimate objects of such a society, viz. improvement in the cultivation of our farms, and in the breeding and fattening of stock, obtained through the emulation excited by premiums for the best tillage of arable land, the best management of pasture, or for the exhibition of the purest bred and handsomest animals.[21]

However, distinct from its predecessors, this nineteenth century society had an added dimension to its programme of agricultural development: the application of science to agriculture.[22] Chemistry was seen as having particular relevance to the practice of agriculture.[23] The potential role of science in the progress of English agriculture was not a new idea. At the turn of the century, the work of Humphrey Davy for the Board of Agriculture and his appointment at the Royal Institution in London, had emphasized the potential of natural science as an aid in agriculture.[24] In 1805, the Bath and West, in response to a proposal made by Sir John Coxe Hippisley, had set up a chemical laboratory in the vaults of the Society's house.[25]

Moreover, the depression of the post-Napoleonic period had made it more important than ever to explore any likely means of stimulating agricultural productivity. By the

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[21] 'Rusticus', 'Advantages of agricultural societies' *F.M.*, **3** (1839) p. 135.

[22] 'Rusticus' felt that it was the 'duty' of farmers from more advanced districts, such as Norfolk, to impart their their superior knowledge to'less scientific' districts, *ibid.*.

[23] 'The Application of Science to Agriculture' *F.M.* (2) 7 (1843), pp. 41-2.

[24] H. Davy, *On the analysis of soils as connected with their improvement* (1805); *Elements of Agricultural Chemistry* (1813).

[25] Dr. Clement Archer, a Bath physician, was appointed Chemical Professor to the Society and farmers were invited to send in samples of soil for analysis. The results were reported and published by the Society in its journals. The first of these results are in *Letters and Papers*, **2** (1807), pp. 275-282. According to E.J. Russell, these are the earliest of its kind that he has seen, *History of Agricultural Science*, fn 2, p. 59.

1830s, a realization of the benefits of scientific agriculture had emerged. For instance, a Parliamentary Select Committee set up in 1833 'to enquire into the present State of Agriculture and of Persons employed in Agriculture in the United Kingdom' came to the conclusion that a more extensive application of the principles of science to farming would be beneficial. The Select Committee were particularly impressed with the comparatively few farmers who had weathered the recent crisis because they had adopted better rotations, made more liberal use of fertilizers and been more systematic in the breeding and feeding of livestock.[26]

A number of agriculturists and landowners were indulging in chemical experimentation. In the 1830s, H.S. Thompson consulted two chemists on the question of soil composition. The first was J.T. Cooper, a London analyst and the second, Joseph Spence, a Quaker chemist and druggist in York.[27] This quest for scientific knowledge was in conformity with the spirit of the times. John Grey of Dilston mentioned that 'grand desideratum...of basing the practice of agriculture upon scientific principles.'[28] In a letter to the *Farmers' Magazine*, Cuthbert Johnson, one of the leading agricultural commentators of the day, remarked on how science has not yet been fully exploited for the advantage of agriculture:

> There is a deep-seated conviction amongst the best farmers of England that agriculture is yet only in its infancy - that many a scientific fact has yet to be applied to farming - that many a stubborn prejudice has still to be removed -

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[26] *Parl. Papers*, **5** (1833).

[27] H.S. Thompson, *T.Y.A.S.*, **8** (1844-5), p. 43; Cathcart, 'Harry Stephen Thompson', p. 530. It was not a coincidence that Spence's services were at the disposal of the Y.A.S. from as early as 1839 and he was appointed its official 'Analyzing Chemist' in 1844. In a paper 'On sub-soil ploughing', H.S. Thompson announces Spence's services to the Society: 'I am aware that chemical analysis has hitherto been unobtainable, without so much trouble and expense as to put it out of the reach of most practical farmers, but I am happy to be able to state, that Mr Spence, Chemist and Druggist, Pavement, York, whose chemical attainments are beyond dispute, has kindly offered to furnish an analysis of any soil sent to him on very moderate terms.' *Trans. Y.A..S.* **3** (1839-40), p. 46.

[28] *F.M.* **8** (1838), pp. 47-8; 'A View of the Past and Present State of Agriculture in Northumberland' *J.R.A.S.E.* **2** (1841), p. 155.

> many a chemical experiment made, before the produce of the earth will even nearly be at its maximum.[29]

Earl Spencer, when first mooting the idea of a national agricultural society in his presidential address to the Smithfield Club annual dinner in 1837 recognized the practical values of science:

> The application of *science to practice* was not as yet made by the English farmer, but if the experiments that had been successfully tried elsewhere were made intelligible to him and the practicability of them explained, he had no doubt but that an improvement would soon take place that few had any conception of.[30]

There was also an inclination to contrast the prosperity of manufacturers with the relative poverty of agriculturists. The success of the manufacturing industry was attributed to the application of capital, invention and lowering prices by scale-economies' and it was queried why 'a truth positive to the loom be negative to the plough'. A correspondent to the *Mark Lane Express* maintained that 'in the midst of this activity of the manufacturing and commercial world, the agricultural stands in stupid apathy.'[31]

In this climate of opinion, a number of agricultural societies were formed. One of the first was the Yorkshire Agricultural Society (YAS), established on 10 October 1837, at the Black Swan Hotel in York. Earl Spencer was proposed for and accepted the chair. However, Spencer was not co-opted as a mere figurehead. Among his contributions to agriculture were his reforming presidency of the Smithfield Club (since 1821), his presidency of the Bedfordshire Agricultural Society (in 1827) and his long support of the Northamptonshire Farming and Grazing Society. He had

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[29] *Ibid.*, p. 163.

[30] Quoted in Clarke, 'Foundation of the RAS', p. 2.

[31] *Agric. Gazette*, 7 February, 25 July 1846, 30 July 1849; *M.L.E.*, 4 January 1836, quoted in Goddard, *Harvests*, p. 13.

refused the presidency of the Northampton Society, insisting that he had joined the Society as a tenant of his father's and not as the heir to Althorp Park. He also ran his estate at Wiseton as an experimental research-station, where he maintained one of the well known nineteenth century Shorthorn strains of sheep, the Wiseton Herd.[32]

The idea for forming an agricultural society in Yorkshire was due to H.S. Thompson, a young man of twenty-eight, well travelled, with a keen concern for agriculture and a taste for chemistry. He 'had an agreeable theory that all truly British institutions commence with a dinner' and it was precisely at a post-dinner discussion at Robert Denison's home at Kilworth Percy near Pocklington where he first suggested forming the Yorkshire Agricultural Society.[33]

Subscription to the newly formed Y.A.S was £1 annually and donations were welcomed. The dual aims of the Society were the holding of an annual exhbiton of breeding stock and agricultural implements and the general promotion of agriculture.[34] It was hoped that 'the collecting together of a body of farmers of England, in order that there may be communication with each other, and that from the variety of information they receive they may improve themselves in the profession in which they are engaged.'[35] The Society's first meeting was held on 19 December 1837 when £435 was subscribed. The first annual show was planned for August 1838 and premiums were announced. The number of subscribers rose from 229 in December 1837 to 800 by late 1838 and 1105 in 1840.[36]

However, there was no national institution concerned with the promotion of agriculture at this time. The Society of Arts which had devoted much time and attention to the cause of agriculture had, as we have seen, lost its interest in the

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[32] For Earl Spencer, see E. Clarke, 'Agricultural Worthies, 1 - the Third Earl Spencer' *J.R.A.S.E.* **1** (1890) 152-3; E.A. Wasson, 'The Third Earl Spencer and Agriculture, 1818-1845', *Agric. Hist. Rev.* **26** (1978), pp. 89-99. See also *D.N.B.* **18**, pp. 768-75.

[33] Carthcart, 'Henry Thompson', p. 527.

[34] Hall, *History*, pp. 43-4, 49-50.

[35] *T.Y.A.S.*, **1** (1838), p. 79.

[36] 'Membership list' *T.Y.A.S.*, **3** (1840).

1820s. One very influential pamphlet in the late 1830s was an open letter from Henry Handley to the third Earl Spencer, urging the formation of a national agricultural society 'to unite, in active cooperation, all, be they landlords, tenants, or others, who feel an interest in advancing the prosperity of British agriculture.'[37]

The English Agricultural Society was formed in 1838. Many accounts of the foundation of the Society stress the role played by the third Earl Spencer who had formally proposed the idea at the 1837 Smithfield Club annual dinner.[38] While Spencer's involvement was crucial, the Society's founder was William Shaw. From 1834 onwards, Shaw had persistently called for the formation of a central agricultural society to act as a centre of communications with local and overseas societies, maintain a museum and library, sponsor reports and lectures, and hold an annual meeting in the country. He based his plan on the models provided by the Highland Society and the Paris Central Society. [39] It was Shaw who solicited Spencer to make his proposal at the Smithfield Club dinner and Spencer was an appropriate person to propose the new Society formally as he was well known in the agricultural community and had helped found the YAS a year before in 1837.

The new society was founded with the motto, 'Practice with Science', inspired by a realization of the great potentialities of science for raising agricultural productivity.[40] It cannot be said that the Society's founders had anything like a coherent plan mapped

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[37] H. Handley, *An Open Letter to Earl Spencer on the formation a National Agricultural Institution* (1838), p. 33.

[38] *Ibid.*, pp. 2-3; Scott Watson, *History of the RAS*, p. 15; Wasson, 'The Third Earl Spencer', p. 95; C. D. Edgar, 'Honest Jack Althorp - Founder of the Royal' *J.R.A.S.E.* **141** (1980), pp. 10-22; 'Royal Agricultural Society' *F.M.* **3** (1835), pp. 443-9; *F.M.* (2) **2** (1840), pp. 73-4.

[39] For a time, this proposal was taken up by the 'Central Society for the Protection and Encouragement of Agriculture', formed in November 1835. However, the Central Society was more for the 'protection' than 'encouragement' of agriculture from the start and it soon became clear that it was mainly preoccupied with 'political' matters. Thus, the need for a non-political, scientific national agricultural institution devoted to the encouragement of agriculture was still present. Shaw's role is reviewed in N.P.W. Goddard, 'William Shaw "of the Strand" and the formation of the Royal Agricultural Society of England' *J.R.A.S.E.* **143** (1982), pp. 98-104.

[40] RAS Council Minutes, 13, 20, 27 March 1839.

out, nor could one have been reasonably expected. Nonetheless, the premium system was still regarded as the primary means of stimulating all aspects of agricultural improvement:

> The distribution of prizes, and any other mode of expending a part of the resources of the Society...to encourage men of science to exert themselves in the improvement of agricultural implements, the improved and economic construction of farm buildings and cottages, and the application of chemical knowledge to the food of plants, and in the suggestion of the means of destruction of insects and animals injurious to vegetables, and the eradication of weeds.[41]

Spencer was elected the Society's first President and Shaw became Secretary. There were two classes of subscriptions: *Governors* paid £5 annually and *Members* subscribed £1 annually. Life membership to both categories was available with a one-off payment equivalent to ten annual subscriptions. In February 1840, the Society resolved to seek a Charter of Incorporation and this was granted on 26 March that year.

In the first year of its existence, the Society had around 2,000 members and this continued to increase and soon reached 7,000 a few years later. This peak may be explained by the initial wave of interest in the 1840s when the Society was dominated by enthusiasts such as Philip Pusey and Spencer and there was an intense interest in the embryonic techniques of 'high farming' such as underdrainage and the application of 'artificial' fertilizers. This was followed by falling membership from the late 1840s through to the 1860s where it hovered around 5,000 because of the loss of confidence within the agricultural community about the conduct of the Society's affairs, primarily the premium system. Membership levels started to climb in the 1870s due to the energetic efforts of the Society's charismatic Secretary, H.M. Jenkins.

[41] RAS Council Minutes, 26 March 1840; Goddard, *Harvests*, p. 26.

This new generation of agricultural societies was still committed to encouraging agricultural progress with premiums. However, these later societies differed from the early societies in several ways. They were essentially show-organizing societies dependant on gate money to finance their premiums. These societies also operated the premium system in conjunction with the peripatetic agricultural show. The RAS stated as one of its founding aims: 'At the Meetings of the Society, [which shall take place in different parts of] the country, by the distribution of prizes and by other means, to encourage the best mode of farm cultivation and the breeding of livestock.'[42]

The next section will discuss this new feature in the operations of the later societies. It will focus on the later development of the premium system that was conducted in conjunction with the agricultural show. In detail, it will look at the show-organizing activities of the RAS and the Bath and West.

5.3 THE LATER SOCIETIES AND PERIPATETIC AGRICULTURAL SHOWS

One new development during 'the renaissance of these societies' was the peripatetic agricultural show facilitated by the expansion of the railway.[43] Long before the formation of the RAS, the provincial agricultural societies had held annual stock and implement exhibitions at 'fixed places of meeting' in the late eighteenth and early nineteenth centuries. For instance, the Smithfield Club's pre-Christmas show was held at Mr Sadler's Yard, Sadler's Wells, Goswell Street from 1806 until 1838. In 1839, the show moved to the Baker Street Bazaar and was held at the Islington Agricultural Hall from 1862 onwards.[44] In conjunction with its Annual Meeting every December, the Bath and West also held a stock and implement exhibition in its yard. The Brecknockshire Society organized its first agricultural show at the Golden Lion's yard after its reorganization in 1817.[45]

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[42] RAS Council Minutes, 26 March 1840.

[43] H.S. Thompson, 'Agricultural Progress and the R.A.S.' *J.R.A.S.E.*, **25** (1864), p. 3.

[44] 'The Smithfield Club Show', *F.M.*, **33** (1868), pp. 2-4.

[45] Edmunds, 'Brecknockshire agricultural society', p. 44.

The forerunners to the agricultural shows were the lavish private shows held by the nobility. Thomas Coke and the Duke of Bedford held their annual sheep-shearings in June each year, the one at Holkham following on a few days after that at Woburn. Lord Somerville held a private show in London for two days during March at Sadlers Yard, the site of the Smithfield Show, where he presented all the prizes and entertained two to three hundred for dinner. Lord Egremont gave the Petworth Fair the character of an agricultural show, presenting prizes to farmers for improved livestock.

Until there was a railway network covering the whole country, the stock and implements intended for exhibition had to be 'conveyed over the *ordinary roads*' and the societies 'drew their supplies from such limited areas'. The absence of a railway network also meant that it was difficult to attract sufficient people to one place in order to make large shows a financial success. Such 'showyards were very indifferently furnished...were only attractive to the residents in their immediate neighbourhood' and the receipts were small. As a consequence, 'their funds consequently insufficient to admit of their offering such prizes as would tempt more distant owners of stock to face the cost and risk of lengthened travel.'[46] The early societies had depended more on the donations and subscriptions than on the popularity of their shows as their chief source of revenue:

> Energetic managers and liberal patrons may for a time supply the place of more general support; but when the zeal or the strength of a few public-spirited individuals fails, societies, so supported, are either given up or fall into a state of chronic inaction, and it would be easy to prove from the annals of these early days that in order to be permanently useful all such societies must be self-supporting.[47]

In order to be self-supporting, the agricultural societies had to secure 'new exhibitions, new visitors and new contributors' to the shows. The transportation of

[46] Thompson, 'Agricultural progress', p. 2.

[47] *Ibid.*.

exhibitors, exhibitions and visitors to the show was also a vital consideration. At the first RAS show in Oxford, Thomas Bates had to send his beasts from Teesside. The beasts were first driven on foot from Kirklevington to Hull (75 miles), then taken by sea to London (280 miles), transferred to the Grand Junction Canal along which they sailed to Aylesbury (54 miles), finally being driven to Oxford (21 miles), a total distance of 430 miles.The overland route from Kirklevington to Oxford on modern roads is approximately 200 miles.[48] Ransomes, the Suffolk implement making firm, on the other hand, used carts and wagons to transport their implements to the show site. The extension of the railway system in the 1840s eased these difficulties and made it possible to expand the scale of these shows. The age of the railways played a significant role in the conception of the show. The railways opened up a new age of travel and facilitated the mass transportation of people, livestock and machinery on a scale previously unknown. A good railway connection was considered by all but the smallest societies to be essential for a successful show[49]:

> ...the rapid extension of the railway system, by which stock, implements, and visitors have been conveyed to these shows in much less time and at much smaller cost, and therefore from much greater distances and in much larger numbers. The increased receipts thus obtained for admission to the showyards have furnished means for the offer of larger prizes, and thus increased the attractions of subsequent exhibitions.[50]

The earliest society to adopt this migratory principle was the Highland Society in Scotland. Founded in 1783 as the Highland Society, and re-oriented and renamed the Highland and Agriculture Society in 1800, it was influential throughout Scotland and the northernmost counties of England. The Society held its first show on 26 December 1822 in Edinburgh, at the back of Queensbury House in Canongate on

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[48] G.E.Mingay, *Rural Life in Victorian England* (1976), p. 63; J.L Hall, *Let Agriculture Flourish: the Diffusion of New Ideas among Agricultural Improvers in Richmondshire, 1815-1870*, unpub MA thesis (Univ. Leicester: 1979), p. 25.

[49] A. Crosskill, 'Agricultural shows and their influence on agricultural progress' *F.M.* **29** (1866), p. 375.

[50] Thompson, 'Agricultural progress', p. 3.

what was apparently a military parade ground. The man responsible for the show was Sir John Sinclair who had been President of the by now defunct Board of Agriculture.[51] This show became peripatetic in 1826 when the show moved to Glasgow although it was only in 1829 that the Edinburgh-Glasgow tradition was broken and the show went to Perth. At the dinner held on the occasion of the first Highland show at Edinburgh in 1822, Sir John Sinclair defined the purpose of agricultural shows as follows:

> Such meetings are of great use in various respects: they are a means of circulating valuable information; they excite a spirit of improvement and much advantage is derived from the discussions which they occasion, and from the opportunities which they afford of viewing the various descriptions of stock [and implements] which a country possesses, and comparing their respective properties and defects.[52]

In England, the YAS was the first to hold peripatetic agricultural shows. The first show was held at Barrack Yard, on the outskirts of York in August, 1838. The list of premium-winners at the show reads like 'a roll-call of the eminent in early Victorian breeding circles.' Spencer won the premium of £25 for the best Shorthorn bull, and the second prize of £10 went to Samuel Wiley. Among the pig-breeders who walked away with premiums were Earl Fitzwilliam, Sir Edward Vavasour and Samuel Wiley again. The *Yorkshire Gazette* reported on the livestock section of the show, 'the show of stallions was the finest which we have ever witnessed.' The cattle exhibited were 'admirable in point and symmetry' and the sheep were 'equal to anything ever seen before.' The 'monster pigs were viewed with admiration and astonishment...We have heard of pigs being blind with fat, but never saw any which were so situated until this day.'[53] However, the YAS was a provincial society and its shows only ever moved

[51] The Board had become defunct in July that year.

[52] Quoted in Scott Watson and Hobbs, *Great Farmers*, p. 198.

[53] 1 September 1838, quoted in Hall, *History*, p. 53.

around the area of its influence, for example, Leeds in 1839, Nothallerton in 1840, Hull in 1841 and York again in 1842.[54]

The concept of the peripatetic agricultural show reached its full potential with the establishment of the RAS in 1838 and its decision to hold its show in a different town each year. The Society's first show was held at Oxford in 1839 because of its central situation. During the Oxford show week, representations were made by a deputation of Cambridgeshire farmers led by Jonas Webb requesting the event be held in Cambridge the following year. The Society was determined to visit a manufacturing district in 1841 and Liverpool was selected after some consideration had been given to Manchester. The location of the first three shows had been chosen on a somewhat *ad hoc* basis but there was early resolve to ensure the regular rotation of districts.

William Shaw had established a committee to devise a scheme of districts that could be visited in turn by the Society. [See *figure 5.1*] It was also agreed that the districts be nominated four years in advance. Applying this scheme of district rotation, Bristol, in the Western District, was selected for 1842; the North Eastern District was nominated for 1843; Middlesex for 1844; North Wales for 1845; the Northern District for 1846 and the Midland District for 1847.[55]

The district chosen for 1847 had originally been South Wales. However, Pusey had successfully moved in 1846 to change this because it was too near Shrewsbury which had already been visited in 1845. Another consideration was the lack of a railway connection, considered to be the *sine qua non* of a successful show after the experience at Shrewsbury where inadequate railway links had lessened the success of the meeting. Thus, the Midland District was substituted for South Wales. The RAS operated this district scheme throughout the 1850s and 1860s until December 1867 when William Torr brought in new district boundaries that were considered to be more in accordance with geological provinces than had hitherto been the case.

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[54] Hall, *History*, p. 73.

[55] R.A.S. Monthly Council, 26 June 1838, 11 March 1840, 3 November 1841; RAS Min. of Meetings, 24 November 1841.

The advantage in nominating the districts in advance was that towns within the district could compete for the 'honour, prestige and profit of receiving the Society.'[56] The Society had a list of 'country meeting queries' specifying necessary criteria which any town had to fulfil for it to be considered a candidate to receive the Society. This included factors such as the size of the proposed show site, its distance from the town and the railway station; the availability of a supply of water and the price of hiring the land for the six weeks required. From 1844 onwards, additional information was elicited about land for conducting the Society's implement trials, which had rapidly become one of the most important parts of the shows. The Society also wanted to know if there was any room in the town capable of containing 500 persons for dinner.

The adequacy of the facilities of individual towns in meeting the Society's requirements was one vital consideration in the choice of show locations as these could determine the success or otherwise of the event. The greatest difficulty was to balance the desirability of the Society going into more remote districts where it was thought a great deal of good might result in bringing new techniques to the notice of backward regions, and the need to generate adequate income to ensure financial viability. It was not until the Chester show in 1858 that a profit was made on a show. It was generally accepted that while making a financial loss, the Society was nevertheless fulfilling its broader educational mission.

Show attendances throughout the 1840s were between 20,000 to 25,000 (figures were not kept until 1852). The show began to blossom as mass spectacles in the late 1850s. [See *table 5.3*] Increased attendance was mainly due to the expansion of the implement section. Machinery trials, for steam-powered implements in particular, began to become a great attraction at this time. The cost of organizing implement trials became one of the most significant items of show expenditure. It later also became the cause of controversy between the Society and the implement makers.[57]

[56] Goddard, *Harvests*, pp. 33.

[57] This will be discussed in the next chapter, SIX (6.2).

1839.	Town, *Oxford.*	**B.**—Midland District: Oxfordshire, Berkshire, Wiltshire, Gloucestershire, Warwickshire, South Division of Northamptonshire, Bedfordshire, and Buckinghamshire.
1840.	Town, *Cambridge.*	**I.**—Eastern District: Norfolk, Suffolk, Cambridgeshire, Essex, Huntingdonshire, and Hertfordshire.
1841.	Town, *Liverpool.*	**G.**—Yorkshire District: Yorkshire and Lancashire, including the Isle of Man.
1842.	Town, *Bristol.*	**C.**—Western District: Cornwall, Devonshire, Somersetshire, and Dorsetshire.
1843.	Town (*undecided*).	**F.**—North-Eastern District: Derbyshire, Nottinghamshire, Leicestershire, Lincolnshire, Rutlandshire, and the North Division of Northamptonshire.
1844.	Town (*undecided*).	**A.**—Middlesex District: Middlesex, Surrey, Kent, Sussex, and Hampshire, including the Isle of Wight and the Channel Islands of Jersey, Guernsey, &c.
1845.	Town (*undecided*).	**E.**—North Wales District: Anglesey, Carnarvonshire, Merionethshire, Montgomeryshire, Denbighshire, Flintshire, Cheshire, Shropshire, and Staffordshire.
1846.	Town (*undecided*).	**H.**—Northern District: Westmoreland, Cumberland, Durham, and Northumberland, including Berwick-upon-Tweed.
1847.	Town (*undecided*).	**D.**—South Wales District: Pembrokeshire, Cardiganshire, Carmarthenshire, Brecknockshire, Glamorganshire, Monmouthshire, Radnorshire, Herefordshire, and Worcestershire.

Figure 5.1 : William Shaw's Scheme of District Rotation for the RAS Shows
Source : *J.R.A.S.E.* **2** (1841); N.P.W. Goddard, *Harvests of Change: The Royal Agricultural Society, 1838-1988* (1988).

Year	Location	Attendance	Year	Location	Attendance
1853	Gloucester	36,245	1867	Bury St. Edmunds	61,837
1854	Lincoln	37,635	1868	Leicester	97,138
1855	Carlisle	37,533	1869	Manchester	189,102
1856	Chelmsford	32,982	1870	Oxford	75,749
1857	Salisbury	37,342	1871	Wolverhampton	108,213
1858	Chester	62,539	1872	Cardiff	87,047
1859	Warwick	57,577	1873	Hull	163,413
1860	Canterbury	42,304	1874	Bedford	71,989
1861	Leeds	145,738	1875	Taunton	47,768
1862	Battersea	124,328	1876	Birmingham	163,413
1863	Worcester	75,087	1877	Liverpool	138,354
1864	Newcastle	114,483	1878	Bristol	122,042
1865	Plymouth	88,036	1879	Kilburn	187,323
1866	No show -	Cattle plague			

Table 5.3 : Attendance at the RAS Shows, 1853-79.
Source : N.P.W. Goddard, *Harvests of Change: The Royal Agricultural Society of England, 1838-1988* (1988).

Canterbury in 1860 was a set-back for the Society partly because the location was inaccessible from many parts of the country and also because the major implement firms boycotted the show as part of their campaign against the premium system. Leeds, Newcastle, Birmingham and Liverpool all had large and profitable attendances in contrast to shows held in more sparsely populated districts such as Bury and Taunton.

The two great departments of the show were the agricultural machinery and stock divisions - the concerns of early and mid-Victorian agriculture. According to contemporaries, the shows offered farmers opportunities for viewing, testing and evaluating agricultural machinery. For the implement makers, the shows constituted a radical 'change of environment' and provided a focus for what Dan Pigeon termed 'storm centres' around which 'successive hurricanes of interest' in types of

agricultural machinery 'gyrated'.[58] After all, a well attended show yard provided the best means of advertisement for them and the show attracted both small, little-known local firms as well as larger, famous ones like Ransomes of Ipswich, Suffolk. Throughout the years, the number of implement exhibitors increased dramatically. This was due to the rise in the number of specialist firms of implement makers in general and the number of these firms bringing their wares to be displayed at the show.

The RAS also organized and conducted implement trials where premiums were awarded for winning implements. These trials developed in a rather uncoordinated manner during the early shows. There were no trials at the first two RAS shows at Oxford (1839) and Cambridge (1840).[59] Nonetheless, the usefulness of implement trials for discovering the comparative merit of various tools led to an *ad hoc* trial of ploughs at the Liverpool show in 1841 where a 'vast stride' in agricultural mechanics since the Oxford show (1839) was noted. This was attributed to the convergence of agricultural engineers drawn from a variety of locations. It was also observed that implement manufacture was passing from the hands of the village blacksmith to men of greater skill and capital. Implement trials became a regular feature of the show week from 1842 onwards.

In the 1840s, there was a particular concern for all types of cultivating equipment - improved ploughs, rollers and clod crushers - and seed drills and drainage tile machinery. Steam engines for the farm received a good deal of attention during the

[58] D. Pigeon, 'The Development of Agricultural Machinery' *J.R.A.S.E.* (3), **1** (1890), pp. 275-75.

[59] In fact, the early show reports indicate a hint of disappointment at the quality of implements exhibited.The main premium offered by the RAS in Oxford (1839) was for a gorse-crusher. In the event, it was not awarded as none of the entries met the specifications laid down by the Society. Numerous drills were shown at Cambridge (1840) but only those by Garrett and Groundsell were considered good enough to win premiums. At this time, implements occupied a subsidiary place to other categories such as livestock on the Society's scale of priorities. This was generally the case with other agricultural societies in the same period. The Bath and West offered sixty-six premiums in 1839 of which only three were for implements. 'Oxford Implement Report' *J.R.A.S.E.*, **1** (1840), pp. 64-70; 'Cambridge Implement Report' *J.R.A.S.E.*, **2** (1841), pp. 13-17.

late 1840s and 1850s, especially for threshing, and steam tillage became a preoccupation of the late 1850s and 1860s. Reaping and mowing machines were given continuous attention in the 1870s. The display of agricultural implements and machinery made by specialized firms at the annual shows also signalled the departure from the amateur tradition and the beginning of a viable national industry.

Stock exhibitions were the other great area of the agricultural shows and it assumed a greater importance to the founders of the Society than implements. This is evident from the Society's first two premium lists. In 1839, fifty sovereigns were offered for a draining plough, twenty for a gorse-crushing machine and twenty for any other implement. In contrast, livestock premiums exceeded 750 sovereigns. However, the period under study witnessed the dramatic expansion of the implement section of the shows while the entries of stock underwent a less dramatic increase. Nonetheless, the range of animals exhibited showed a marked extension between 1839 and 1880. In the 1840s, the livestock premiums had a standard form. Shorthorns, Herefords and Devons were the three divisions for cattle with an extra class for 'any other breed or cross'. The sheep classes were for Leicesters, South Downs, other short-woolled sheep, and for long-wools not qualified to compete as Leicesters. There were divisions for agricultural horses and hunters, and pig classes that were restricted to 'large' and 'small' breeds. There were also attempts to bring out the animals specific to the particular localities of the shows. Thus, there was an extra class for the 'Channel Island breed of cattle' at Southampton (1844) and for sheep 'most adapted to mountain districts' at Shrewsbury (1845) and Newcastle (1846). Gaining a premium was not only a matter of pride, it added considerable value to one's stock.

Following the success of the RAS peripatetic agricultural shows, the provincial societies began to look into ways to adapt the success of the RAS show to their own. One of the most penetrating assessments of the new peripatetic show and of the ways it could be most usefully integrated into the work of provincial societies was written by William Miles, a prominent member of the Bath and West. He proposed that the Bath and West should move its annual show away from Bath and hold it each year in a different town within the Society's area. Miles cited the RAS show at Exeter in

1850 as a fine example and was determined to bring all the advantages of such an exhibition within the reach of the western counties. Miles' proposal was presented to the Society by Thomas Dyke Acland. Acland of Killerton was a West Country squire who retired from Parliament in 1847 in order to devote himself to the management of his estates. The proposal received strong support from the Society's President Lord Portman and a committee of seven members was appointed to consider and report on the subject. They came to the conclusion that the Bath and West should adopt Miles' plan and hold an annual peripatetic show in the south west. At the same time, a negotiation was opened between the Bath and West and the Devon Agricultural Society with the view of uniting the two societies. The result was a merger between the Devon Society and the Bath and West on 11 February 1851, and a new constitution.

It is highly probable that adopting the migratory principle was the Society's bid to become financially self-sufficient. Throughout the 1830s and 1840s, it had been dogged by financial problems. In 1840, the Society was forced to sell £300 of its investments to raise funds. Its bad fortune continued when its bankers, Hobhouse, Phillott and Larden, proprietors of the old Bath Bank in Milsom Street, failed, owing them £411 2*s*. 9*d*.. In the event, the Society managed to retrieve about £267 in dividends, which amounted to the loss of about a year's income. Tugwell, Mackenzie and Clutterbuck were appointed as the new bankers, but the main problem seemed to be finding the money to pay into this new account.

Despite a rent reduction in 1847, the Society gave up its rooms at Hetling House in December the following year. By arrangement with the Bath Commercial and Literary Institution, the Society's annual meetings were also held at the former's rooms without charge.[60] The position of the newly appointed Secretary, Henry St. John Maule, 'having a regard to the pecuniary circumstances of the Society' was an honorary one.[61] In general, the 1840s were marked by the Society's attempts to

[60] 'Report of the Committee of Superintendence', B.W., *Rules, Orders...*(1849) p. 19; 'Report of the Committee of Superintendence', B.W., *Rules & Orders...*(1851) p. 19.

[61] *Ibid.*, (1851), p. 20.

economize its expenditure and find ways of increasing its funds. It was largely unsuccessful and managed barely to get by. At the end of the financial year of 1850, the Society's cash in hand amounted to a mere £310 5*s.* 6*d.*

In retrospect, the decision to take the Annual Meeting and show around the region was adopted because it answered two purposes. Firstly, the income from the show would revive the Society's abysmal financial situation and ensure its continued existence. Secondly, it would transform the scale and complexity of the Society's operations and 'by a new accession of strength, the Bath and West of England may spring up, like a giant refreshed, and preserve the vigour and usefulness which have distinguished the earlier periods of its existence.'[62] The first Bath and West show was held in Taunton in 1852. It generated a lot of local and national interest and support and stockbreeders and trade exhibitors came from all over the country. There were 126 exhibitors altogether, 77 of stock and 49 of implements. The entries of stock numbered 238 and of implements, over 400. Premiums offered at the show totalled £484 - £148 for cattle, £99 for sheep, £30 for pigs, £40 for horses and £167 for implements. In the years to follow, shows were held in Plymouth (1853), Bath (1854), Tiverton (1855), Yeovil (1856), Newton Abbot (1857), Cardiff (1858) and Barnstaple (1859).

Figures for show attendances were only available from 1860 onwards.[63] [See *table 5.4*] Generally, venues such as Bristol, Plymouth and Southampton attracted more crowds because they had a large urban population and more significantly, were easily accessible by rail.[64] Smaller towns tended to attract fewer people. The Salisbury

[62] 'Report of the Committee of Superintendence', *Rules, Orders...*(1839), p. 42.

[63] Kenneth Hudson has suggested that the availability of these figures was due to the automatically-registering turnstile which was invented around this time. *Bath and West*, fn. 1, p. 242.

[64] The railway played a vital role in the peripatetic shows. Besides transporting people to the shows, the railway also played an important part in transporting exhibites to the Bath and West show. The Great Western Railway, the Bristol and Exeter, and South Devon Railway Companies conveyed both stock and implements to the Bath and West shows at a reduced rate. By the late 1850s, the Society reported that it had in its possession statistics that showed a considerable extent of traffic along the principal lines of railway in the West of England traceable to the venues of its annual shows.

shows in 1866 and 1867 were further disadvantaged by the cattle plague taking place throughout the country in 1866.[65]

Year	Location	Attendance	Year	Location	Attendance
1860	Dorcester	23,000	1871	Guildford	34,000
1861	Truro	29,000	1872	Dorchester	34,000
1862	Wells	15,000	1873	Plymouth	62,000
1863	Exeter	35,000	1874	Bristol	110,000
1864	Bristol	88,000	1875	Croydon	41,000
1865	Hereford	52,000	1876	Hereford	49,000
1866	Salisbury	26,000	1877	Bath	76,000
1867	Salisbury	24,000	1878	Oxford	39,000
1868	Falmouth	31,000	1879	Exeter	55,000
1869	Southampton	57,000	1880	Worcester	46,000
1870	Taunton	52,000			

Table 5.4 : Attendance at the Bath and West Shows, 1860-80.
Source : K. Hudson, *The Bath and West: A Bicentenary History* (1976), p. 230.

The arrival of the peripatetic agricultural shows signalled a new stage in the development of the agricultural societies. The later societies were operating on a scale unknown to the first generation of societies and reaching a far wider number of people than ever before. By the late 1870s, the RAS show was '*the* sight of the year for those of a bucolic turn of mind' and many thousands of farmers 'would not like to miss the Royal [show]'.[66] The shows had significant influence on the interchange of ideas and opinion that took place and in the critical examination of stock and implements in the showgrounds. They also had the general function of stimulating awareness of agricultural progress. At the turn of this century, Joseph Darby recalled

[65] In 1866, because of foot-and-mouth disease, or as it was then known, the cattle plague, the cattle class was scrapped at the Salisbury shows. Instead, categories for dogs and horses were introduced. For further reading on the cattle plague, see R. Whitlock, *The Great Cattle Plague: An Account of the Foot and Mouth Epidemic of 1867-8* (1968).

[66] 'Liverpool Report' *J.R.A.S.E.*, **38** (1877), p. 531.

how the RAS shows of the 1850s demonstrated the best in improved implements and stock.[67]

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After a period of post Napoleonic-war depression from the late 1810s to the early 1830s, there occurred a re-orientation and restructuring of English agriculture which over some twenty-five years took agriculture out of its depressed state into the buoyancy of the 1850-70 period. At the heart of this movement was an entrepreneurship encouraged by certain central figures acting both as private landlords and public promoters. This core group consisted of men like William Miles and Thomas Dyke Acland, who played key roles in reviving existing societies such as the Bath and West, and H.S. Thompson and the third Earl Spencer, who formed new societies such as the RAS and YAS. Like their Georgian predecessors, this new generation of Victorian societies were still committed to the premium system. However, one new aspect of the activities of the later societies was the peripatetic agricultural show that featured implements and livestock. The age of the railways played a significant role in the conception of such a the show. They facilitated the mass transportation of people, livestock and machinery on a scale previously unknown. In the second half of the nineteenth century, the peripatetic show grew in popularity. However, it was also becoming apparent that the premium system was losing its popularity as a method of encouraging agricultural improvement. The declining confidence in premiums was mainly due to two controversies: the 'inadequacy' of the implement trials and the 'over-fattening' of livestock. As a national society with a substantial show each year, the RAS played a central role in both controversies. The next chapter will focus on the debates that the RAS conducted with the implement makers, the stock breeders and wider agricultural community over the role of premiums, and the events that led to the decline of the premium system.

[67] J. Darby, 'Reminiscences of Royal Shows' *M.L.E. Carlisle Supplement*, **30** (1902).

6. DECLINE OF THE PREMIUM SYSTEM

As the later agricultural societies and peripatetic shows developed and flourished, it became apparent from the mid-nineteenth century that premiums were losing their popularity. A certain disillusionment with the premium system was setting in and people were beginning to question its utility for stimulating agricultural advance. This chapter will recount the events that led to the declining importance of the premium system and the pivotal role played by the RAS in this episode. Before the foundation of the RAS in 1838, there was no national society entirely devoted to agriculture. When the RAS was established, even though there was no formal federation, it represented the voice of the smaller provincial societies. Thus, the decline of the premium system and the debates that were conducted revolved around the RAS. From as early as the 1840s, a heated debate ensued between the RAS and the implement makers over the conduct and objectives of premiums for machinery trials. Their main objection stemmed from the ways in which trials were conducted and premiums were distributed by the Society. At the same time it also became embroiled in a discussion with the wider agricultural community over the tendency of the premium system to encourage the breeding of over-fat livestock. Contemporary commentators were also questioning the necessity of premiums for agricultural improvement. As a result of these protests for reform, the premium system declined in importance, being substantially modified and becoming a token prize system only by the late 1870s.

6.1 STOCK EXHIBITIONS - A CASE OF MISGUIDED OBJECTIVES

It would be safe to generalize that the recognized objective in awarding premiums at stock exhibitions was to encourage improved breeding of animals and especially the quality of 'early maturity'. However, throughout the nineteenth century, there was continuous controversy over the conditions in which the stock should be exhibited and by extension, the utility of premiums, and even the stock shows themselves, were often questioned. The main objection was that the over-fattening of stock had been

encouraged to such an extent that it 'incapacitates or deteriorates animals for breeding purposes'.[1]

The convention of the day was for very large beasts that bordered on being absurdly fat. The tradition to show very large obese animals was derived from the pattern set by the Smithfield Club where the emphasis was on feeding and fattening for the pre-Christmas fatstock show. Earlier in the eighteenth century, the widespread availability of new foods such as fodder crops and oil cake for fattening animals had dramatically improved the size of livestock. At Smithfield in 1710, the average weight for beeves was 370 *lb.*, for calves 50 *lb.*, for sheep 28 *lb.* and for lambs 18 *lb.* In 1795, these figures had risen to 800 *lb.* for beeves, 148 *lb.* for calves, 80 *lb.* for sheep and 50 *lb.* for lambs. The dimensions of these over-fat livestock are recorded in contemporary paintings. [See *figure 6.1*]

In 1800, George Garrard had taken detailed measurements of what were considered by reliable judges to be outstandingly good livestock and made models from his measurements. [See *figure 6.2*] Garrard's aim was that 'the exact proportion, in every point, should be accurately preserved'. His plan was submitted to the Board of Agriculture:

> [It] had the honour of meeting with considerable encouragement, being referred by a Committee of that Board to the Duke of Bedford, and the Earl of Egremont. Models were in consequence prepared from the best specimens that could be procured under the inspection of these noblemen and being examined at a Committee of the Board of Agriculture were much approved.[2]

[1] T.F. Plowman, 'Agricultural societies and their uses' *J.B.W.E.S.* (1885), p. 170.

[2] *A Description of the Different Varieties of Oxen common in the British Isles Embellished with Engravings; being an Accompaniment to a Set of Models of the Improved Breeds of Cattle executed by George Garrard upon an exact scale from Nature under the patronage of the Board of Agriculture* (1800).

The engravings show animals which are considerably less obese than those which were exhibited. For example, compare the discrepancy in dimensions between Garrard's models [*figure 6.2*] and the prize-winning pig and boar [*figure 6.3* and *figure 6.4*] .

Nineteenth century stock breeders valued 'early maturity' in livestock which implied a large size at an early stage:

> Early maturity must always be one of the leading points of excellence, and as they will depend almost entirely on the breeding, a great share in the merit of the fattest ox, sheep, or pig, is justly due to the breeder of it.[3]

As a result, show judges tended to favour fat beasts - their fatness being taken as some form of indication of their propensity toward 'early maturity' - and the majority of premiums at the stock exhibitions were won by fat, as opposed to breeding, animals. Many of these animals were specially trained for the specific purpose of obtaining premiums at shows and securing 'distinction and publicity for the herd to which they belong'.[4] The White Heifer is one such example. [See *figure 6.5*] She was one of Robert Collings' most famous animals and was fattened as an exhibition animal rather than being used for breeding. She was said to weigh 164 stone (2,296 *lb.*) and travelled to all the major agricultural shows all over the country for exhibition.

The practice of awarding premiums to obese animals gave rise to a host of problems. Animals are reared for two purposes: for breeding and for human consumption. However, there was also an inherent contradiction between the desire for the quality of 'early maturity' and the need for lean stock for breeding purposes and for the butcher. For the first purpose, 'the man who...is desirous of improving the character of his stock will buy or use a premium animal with some chance of that advantage implied in the award.' It was also generally held that feeding beyond what was

[3] 'Rusticus', 'Advantages of Agricultural Societies' *F.M.*, **3** (1839) p. 135.

[4] 'The Royal Agricultural Society - Mr E.A. Fawcett's suggestions' *F.M.*, (3) **47** (1875), p. 98.

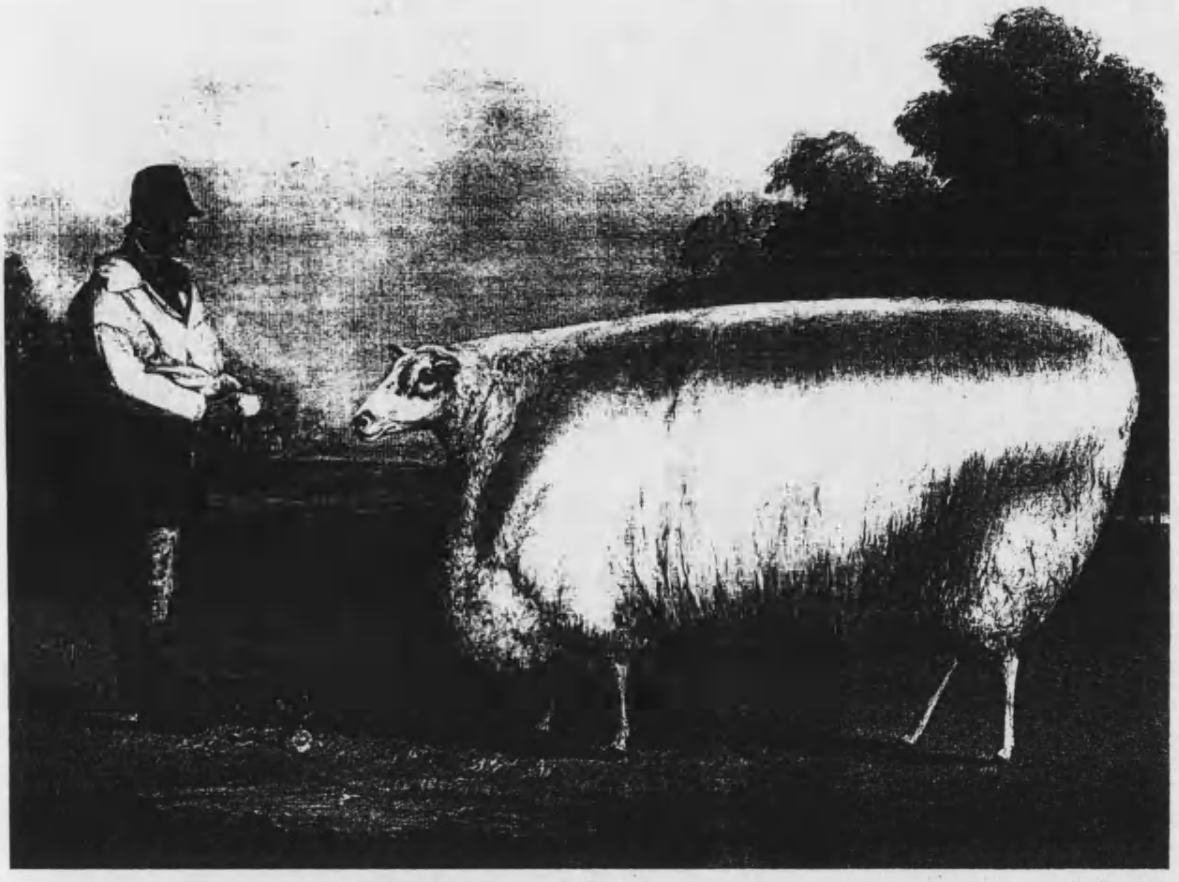

Figure 6.1 : Prize Sheep being fed Turnips
Source : E. Moncreif, *Farm Animal Portraits*, (Suffolk: 1996).[5]

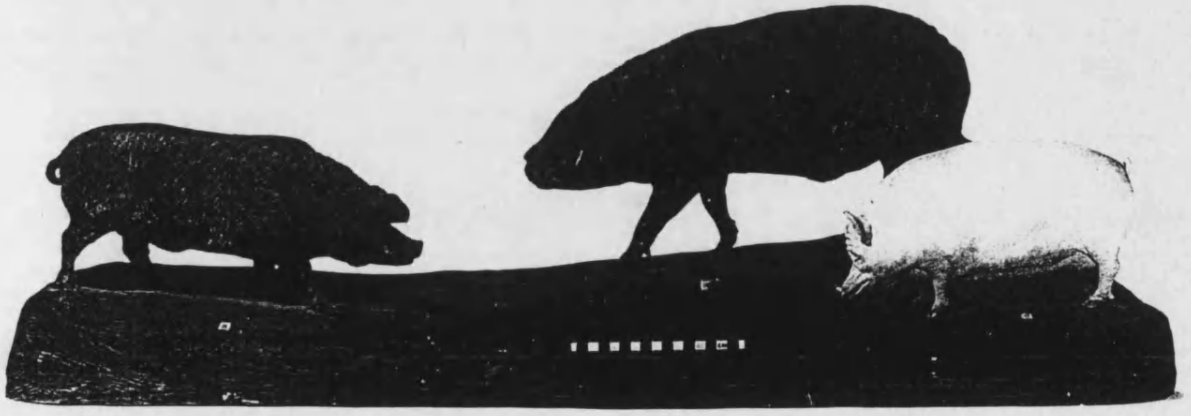

Figure 6.2 : Models of Pigs by George Garrard
Source : E. Moncreif, *Farm Animal Portraits*, (Suffolk: 1996).

[5] I am grateful to Dr Graham Cox for lending me this book from which this and the following illustrations are taken.

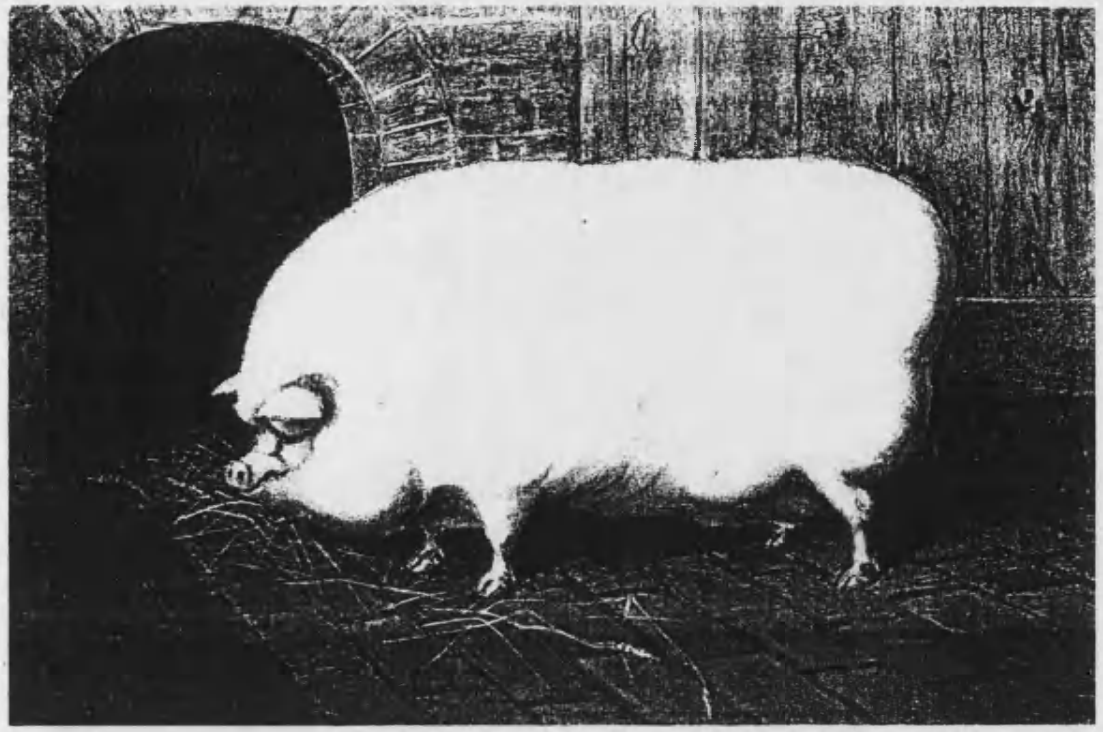

Figure 6.3 : A Prize Sow Outside a Sty
Source : E. Moncreif, *Farm Animal Portraits*, (Suffolk: 1996).

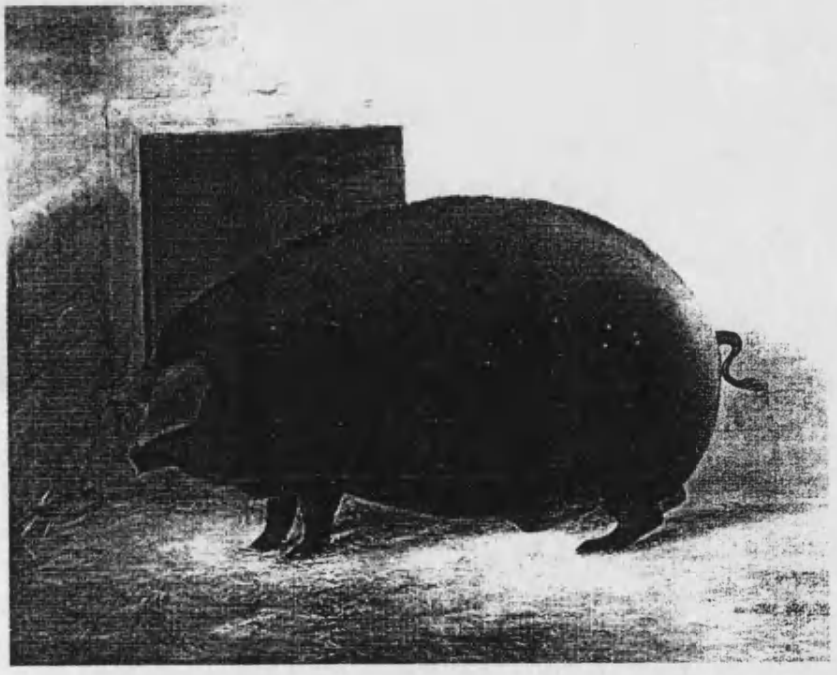

Figure 6.4 : Prize Boar in a Sty
Source : E. Moncreif, *Farm Animal Portraits*, (Suffolk: 1996).

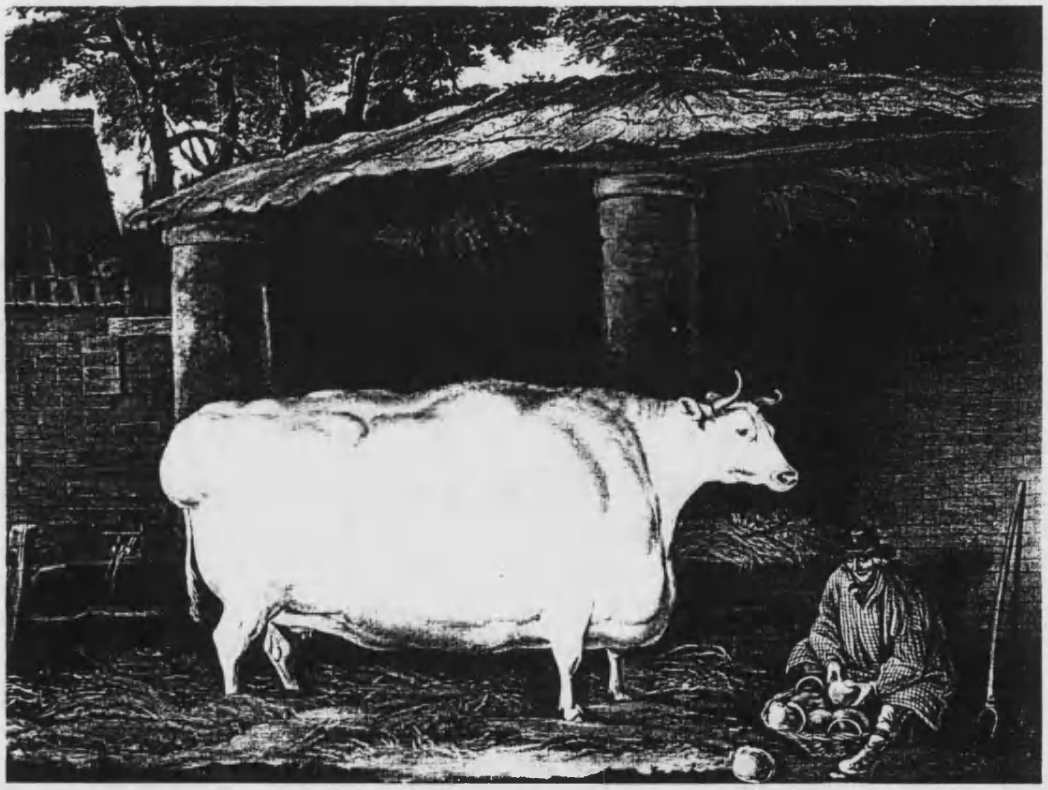

Figure 6.5 : Robert Collings' White Heifer
The shorthorned heifer is shown here outside a byre with a man slicing turnips to show she was reared in the 'improved' way.
Source : E. Moncreif, *Farm Animal Portraits*, (Suffolk: 1996).

required for breeding purposes was necessary in order to ascertain 'the disposition of breeding animals to develop muscle and fat'. As a consequence of such a 'forcing process of feeding', the animals grew to gigantic proportions and won premiums. However, in many instances, the premium-winning animals were too fat for breeding, thus underlining the futility of the entire operation:

> It sometimes takes a good judge to determine when a milch cow has attained a degree of fatness to exemplify her flesh-growing qualities; for long before she has attained to this, she may even be too fat for conception, to say nothing of parturition...In short, it [the overfed condition] is a disease...and must be cured if possible.[6]

For the second purpose, that of raising animals for human consumption, the practice of over-feeding stock to achieve a certain 'fatness' encouraged a fashion for the production of large, over-fat beasts with too much fat content and too little meat content. This certainly was not in keeping with the Smithfield Club's aim 'to produce the greatest possible amount of meat of the best quality at the lowest price'.[7] Instead, this system of fattening stock gave rise to the jibe that these obese animals were 'too dear to buy, too fat to eat.'[8] Thus, there appeared to be a conflict between the type of animal officially encouraged by the agricultural societies and the type that received premiums at the shows. The conflict arises when one considers the role of the societies which was principally to diffuse examples of good agricultural practice for all farmers to emulate.

The over-fed condition of much of the stock exhibited at the early agricultural shows generated intense criticism. In 1845, T.C. Hincks queried, 'whoever saw a well-made giant?' He added that judges should have instructions not to award premiums to animals so overgrown that their points were obscured by accumulated layers of fat

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[6] 'Over-fed breeding stock', *F.M.*, **24** (1853), pp. 174-6.

[7] 'W.B.', 'Fat versus Lean; or the Obese System of Feeding Stock' *F.M.*, **22** (1862), p. 316.

[8] J. French Burke, *British Husbandry* (1834), p. 23; Clark Hillyard, 'The Utility of Public Cattle Shows' *B.F.M.*, **1** (1826), pp. 326-9.

that covered over imperfections.[9] The following year, F.H. Fawkes, a prominent member of the YAS, wrote to the Society, accusing the show judges of giving preference to breeding animals that were ridiculously fat. Their fatness made it very unlikely that they would be of much use for breeding:

> Stallions, bulls, and rams will be in such 'a diseased state' as to unfit them for propagating their species, however favourable may be the condition of mares, cows, and ewes; while the latter will be as barren as if spayed, whatever may be the condition of the former. 'Food had been wasted,' it will be said, 'for the express purpose of unfitting them for the object for which they are exhibited'.[10]

With continuous complaints of this kind, the animals exhibited at the RAS show in York (1848) and the decisions of the judges at that meeting were widely condemned.[11] In 1851, the *Gardeners' and Farmers' Journal* observed that while 'much has been gained in point of early maturity and quick fattening...there has been a great sacrifice of milk and of hardiness; and these are important losses, which it would be desirable to redeem.'[12] In 1852, this issue was taken up by Earl Ducie, President of the RAS. He was prompted by the experience at the Lewes exhibition of that year where a number of overfed beasts had died in the extreme heat. Ducie proposed that something ought to be done to arrest the evil of over-feeding for exhibition. It was generally recognized that animals were trained-up specially for the show and widespread abuse included feeding the stock with large rations of linseed cake, gin, cream and aniseed. As a consequence, the RAS introduced the 'jury system' in 1853 to adjudicate the condition of cattle, sheep and pigs exhibited. Under this system, animals would be disqualified if found to be in an over-fed state.[13]

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[9] T.C. Hincks, *Hints for Increasing the Practical Usefulness of Agricultural Shows* (1845), p. 14-17.

[10] 'B', 'The Over-fed Breeding Stock Question', *F.M.*, **4** (1853), p. 174.

[11] 'On the Overfed State of Animals Exhibited at the Show of the Royal Agricultural Society' *F.M.*, (2) **18** (1848), p. 273.

[12] 'Agricultural Societies - Premiums' *F.M.* (3) **35** (1851), p. 220.

[13] *F.M.*, (3) **2** (1852), p. 540.

At the Gloucester show (1853), animals that were disqualified under this new system included pigs that 'could not stand', sheep with 'difficulty in respiration', and rams which 'like the Romans of old, preferred taking their meals in a reclining position'.[14] Yet these disqualifications proved to be very controversial. One farmer, when asked if he fed his sheep with 'aniseed, fenugreek, mutton suet, cream or gin' maintained that while his sheep 'has not been begrudged a good dinner', it 'has never at any time been indulged with either of these delicious morsels as a dessert'. Furthermore, it was claimed that the 'reclining' position of the disqualified rams was only a reflection of their 'docility and aptitude to fatten'.[15] There was also determined opposition to the restriction from influential stock-breeders, some of whom, like the implement manufacturers, boycotted the Gloucester show on that account.

The disqualifications 'pronounced at Gloucester were not eventually confirmed in every case: animals apparently over-fed at the time having subsequently been proved to be breeding stock.' As a consequence, the jury system was abandoned and the responsibility of awarding premiums was once again placed in the hands of the judges in 1854. Little progress was made over the matter and at the RAS show in Lincoln (1854), over-feeding was noted as being prevalent. Additional malpractices such as filing the pigs' teeth to give a false impression of youth, and artificial shearing of sheep to accentuate symmetry and hide defects were also widespread.[16] It was not uncommon for animals to break down under severe training and force-feeding also gave rise to damage in the reproduction system.[17]

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[14] *F.M.*, (3) **4** (1853), pp. 140-1.

[15] The farmer added that this sheep was 'on his legs very often during the show, and, had you been there, you might have seen him walk through the mud from one end of the yard to the other, on leaving it on Saturday; and, lame as he is, he walked a quarter of a mile (measured) this morning in 15½ minutes.' W. Cother, 'On the Disqualification of Animals for being Over-fed' *F.M.*, **4** (1853), pp. 176-7.

[16] 'Breeding Stock - the Condition in which they should be Exhibited', *F.M.*, (3) **6** (1854), pp. 164-5; Scott Watson and Elliot Hobbs, *Great Farmers*, p. 243.

[17] *Morton's Almanac for Farmers and Growers* (1871), p. 59.

Ducie died in 1853 and much of the initiative for reform was then lost. Thereafter, the overfed condition of the stock exhibited continued to be perceived as a major problem, but one which seemed to be incapable of solution in the face of the breeders' general opposition to reform. The show reports contain continual allusion to this unsatisfactory state of affairs. At Carlisle (1855) it was stated that some of the pigs were 'much above the age stated on the certificates and so overfed that they could not possibly be in breeding condition'.[18] At Chester (1858), the conditions of the cow and heifer stock were considered 'unnatural and opposed to common sense'.[19] At Worcester (1863) many of the pigs were unable to walk from their crates to the pens and some were disqualified. The sheep had been clipped and trimmed to make 'charming models of symmetry'. At Plymouth (1865) the bulls were 'overfed and inactive' and difficult to get into the show ring.[20]

Protests from the agricultural community continued and these were often published in the *Farmers Magazine*:

> Our object is to induce the Smithfield Club, and other fat-stock Clubs and Societies, to take the necessary practical steps for encouraging the opposite practice, viz., the growth of rich, juicy lean meat in greater abundance, with no more fat than is necessary for health and domestic economy.[21]

To a considerable degree, the blame was laid upon the show judges, who awarded premiums to the kind of stock that pleased them and the farmers much more than it did the customers. The process of judging was always a problem. First of all, it was often difficult to obtain judges of the right calibre, especially since many of the recognized experts would themselves be exhibitors. This contributed to a situation

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[18] W. Simpson, 'Report on the Exhibition of Livestock at the Carlisle Meeting of the Society' *J.R.A.S.E.*, **16** (1856), p. 504.

[19] S. Jonas, 'Chester Report' *J.R.A.S.E.*, **18** (1856), p. 365.

[20] J.D. Dent, 'Worcester Report' *J.R.A.S.E.*, **24** (1853), p. 47; 'Plymouth Report' *J.R.A.S.E.*, (2) **1** (1865), p. 360. Many other similar comments can be found in the reports in the years to follow..

[21] The author also expressed his concern that obesity might become hereditary. 'W.B.', 'Fat versus lean', *F.M.*, **22** (1862), p. 326.

where animals that failed to gain a premium at provincial shows could be successful at the RAS show, or the latter's decisions were reversed at a Bath and West show. Such inconsistencies in judging only served to undermine the stock exhibitions even more.[22] Secondly, animal judging was of an extremely subjective nature. Except for the short-lived 'jury system', the judges have always been responsible for 'awarding the prizes to those animals which *in their opinion* are the best adapted for the purposes of breeding.'[23] A correspondent to the *Farmers' Magazine* recognized that in a judging process dependent on 'a mere matter of opinion', 'there is a great want of more certain proofs and principles by which the decision of the judges might be guided'. [24] One way of overcoming this subjectivity was by establishing some yardstick for adjudication. H.S. Thompson writes of the difficulty in devising such a standard:

> Animals in different states of condition can never be brought into fair competition with one another. Of two animals equally symmetrical and equally well-bred, but unequal in condition, the one which is fattest shows to most advantage and unquestionably appears the better animal, and as no exhibitor knows the precise condition in which the other competing animals will be shewn, he is anxious that his own should be under no disadvantage in this respect, and nothing less than a positive rule can meet the difficulty. How to frame such a rule is the next question.

In the 1840s, Thomas Bates had proposed encouraging the all-round qualities of stock and not merely to reward 'the chance obesity of the individual'. However, his proposals, which included the idea of an award for family groups of stock as an indicator of merit over more than one generation, failed to raise much enthusiasm in the RAS and the emphasis continued to be on 'early maturity' with the attendant temptation to produce animals that were unusually large for their age.[25]

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[22] Instances can be found in 'Mr Fawcett's suggestions' *F.M.*, (3) **47** (1875), p. 98.

[23] Emphasis added. 'Breeding stock' *F.M.*, **6** (1854), p. 165.

[24] 'Agricultural Societies - Premiums' *F.M.* (3) **35** (1851), p. 220.

[25] C.J. Bates, *Thomas Bates and the Kirklevington Shorthorns* (1897), pp. vii-viii, 308-11.

There was also intense debate about the way in which the judging could be best carried out and the amount of information that should be given to judges. In order to preserve anonymity neither the names of animals nor their pedigrees were revealed during the early RAS shows. Public debate revolved around suggestions made by E.A. Fawcett, a well-known Shorthorn breeder, at the Bedford show of 1874. His points included those which had been so widely discussed over the previous thirty years - that premiums were too often awarded to fat rather than breeding animals, that Ducie's proposals had never been seriously acted upon, and that animals were still especially prepared for the shows by feeding with cod liver oil, milk and sugar, rum, brandy, and treacle. In addition, there was the question of the same judges acting at more than one show during the year and the fact that animals were often led into the show ring by well-known men, so that the impartiality of the judges was questioned.[26]

The most contentious issue here was whether the names of the owners and the pedigrees of the competing stock should be given to the judges and there was spirited debate over what became known as 'judging by catalogue'. This was allied to the issue of whether there should be a condition that Shorthorns should have an entry in the *Herd Book* in order to compete for a premium. Here the division of opinion was between those who held that an unregistered sire was a 'permanent flaw' and those who considered that too much attention was often given to pedigree alone, which sometimes clouded objective judgement. For the Birmingham show of 1876, Dent proposed that the judges should have access to the full catalogue. The argument was that if it was desirable for stock to have four crosses of blood, then the judges should know what these were. It was thought that full information might counter the exhibition of overfat animals at a show of breeding stock and that as there was no show where some of the animals were not already known by the judges it was more equitable to group them under the same terms.[27]

[26] 'Mr Fawcett's suggestions' *F.M.* (3) **47** (1875), pp. 97-9.

[27] RAS Monthly Council, 2 February 1876; *F.M.*, (3) **49** (1876), p. 199.

This proposal was generally very poorly received in the agricultural community. It was considered that to place the full catalogue in the hands of the judges might serve to shut out the new or rising men from exhibiting. E.A. Fawcett, whose suggestions had served to make the issue one of central concern, considered the proposal undesirable as the judges could hardly fail to be influenced by the names of eminent breeders.[28] There was the suspicion that the pedigree would assume more significance than the competing animals, that 'visible merits' would be outweighed by 'high lineage'.[29] 'Judging by catalogue' was seen as likely to lead to the situation whereby the judge would either be charged with favouritism and unfairness or risk refusing a premium to a worthy animal because the judge and the owner happened to be well acquainted with each other. Against this, Samuel Sidney maintained that numbers rather than names did not always ensure secrecy and that the best animals were often well known before appearing at the shows. In answer, it was pointed out that horse shows (for which Sidney was responsible at the Islington Agricultural Hall) were quite different from Shorthorn shows where ownership and pedigree were bound to be taken into account in deciding what was best.[30] In the face of this almost universal opposition from the agricultural community, the 'complete catalogue' proposal was not proceeded with by the RAS and Dent's motion was defeated.

Another controversial suggestion about judging was urged upon the Society by Lord Kinnaid, the Scottish agriculturist. He suggested the utilization of a scale of points to bring in greater objectivity and this generated less uproar than 'judging by catalogue'.[31] It was supported on the grounds that it had been successfully adopted in Australia and America and that in the hands of competent judges the 'points system' would overcome the 'national evil' of over-fed breeding stock. It would make the judging process less 'empirical' and circumvent the predilection of the judges to give premiums to prominent breeders.[32] Against this, it was maintained that the system

[28] RAS General Meeting, 10 December 1874; *F.M.*, (3) **48** (1875), pp. 55-6.

[29] *Agric. Econ.*, 1 March 1875, quoted in Goddard, thesis, p. 358.

[30] *Agric. Gazette*, 20 March, 3, 10 April, 1876, quoted *ibid.*, p. 359.

[31] For a memoir, see 'The Late Lord Kinnaid as Agriculturist' *F.M.*, (3) **53** (1878), p. 145.

[32] *The Farmer*, 20 October, 3 November, 1873, quoted in Goddard, thesis, p. 359.

could be just as inaccurate as the traditional method, that it would be tedious and take up too much time, and that animals might have qualities that would be impossible to incorporate objectively into a points scale.[33] The Society's disinclination to take up Kinnaid's suggestion was not generally criticized as it was admitted that his £10 premium for the best cow or heifer of Shorthorn breed judged on the points system at the Scottish Midland Counties Show at Kinross had not been successful.[34]

Although there was considerable discussion of the problems of judging the show animals, very few changes were made and the fundamental problem of acceptable show condition remained largely unresolved. In 1871, Morton, in reply to the question of what was meant by 'show condition' described it as 'a hopeless obesity, a constitution endangered, a system forced to an unnatural extent, a pampered condition of body anything but fitted to withstand the hardship to which cattle are constantly subjected.' The Kilburn stock report still made reference to 'animals in unprofitable high condition winning premiums year after year'.[35] Thomas Plowman, referred to this report in his address to the London Farmer's Club and admitted that premiums were often awarded to overfed stock.[36]

As late as 1888, James Long of the Royal Agricultural College, Cirencester, delivered a blistering attack on the habit of showing and giving premiums for over-fat pigs. At the Smithfield show, he observed that 'valuable pieces of plate and numerous prizes are annually distributed among animals which are simply animated rolls of lard':

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[33] *Agric. Gazette*, 8, 29 November 1873, quoted *ibid.*, p. 360.

[34] The Morayshire Farmers' Club also reported: 'We have attended as many stock-shows as most men, and have been both within and at the side, but we have never met with a judge yet who arrived at his decision by a calculation of points, a system which, however, often referred to, is still a fable in Jersey, where it looks pretty enough on paper.' 'The Show Season - Judges and Premiums' *F.M.*, **47** (1875), p. 406. Twentieth century assessments of the points system have shown that its is not particularly useful in picking out small differences between stock. Goddard, thesis, p. 360.

[35] 'Kilburn Stock Report' *J.R.A.S.E.*, (2) **15** (1879), p. 631.

[36] 'Agricultural societies and their uses', pp. 172-3.

> Such pork is not only extremely wasteful but most unsaleable, returning to the produce a far lower price per stone than pork ought to do... When it happens, if it ever does, that the carcasses of the prize animals are exhibited, the public will then be able to discriminate and to understand that the prize pigs they are so commonly accustomed to applaud are utterly unfit for their tables. [37]

As a result of the debate surrounding the issue of obese stock and the lack of an obvious solution to it all, some breeders gave up exhibiting because they felt there was 'no hope of obtaining a prize unless the animals are trained for and sacrificed to that purpose, by being made as fat as it is possible to make them, without any regard whatever for their breeding'.[38] As long as breeders and judges persisted in favouring over-fat stock, no judging criteria, however original, would improve the quality of stock. H.S. Thompson recognized this even in 1847:

> [The process of judging would still be a matter of drawing] a line between the pardonably and unpardonably fat, with sufficient distinctness to have satisfied your own mind that it would be fair and just to have sent those on the right to compete for prizes, and to turn those on the left out of the yard?...I feel sure that it could not be done. It would be very easy to walk through the yard and select an animal which is atrociously fat, and which, every one would agree, might go to the door; but after dismissing one offender, you could not walk far without finding another so nearly as bad as the last that it would be a gross injustice to condemn the one and (possibly) reward the other, and it must, therefore, be sent after its fellow. Next would be found one, rather less corpulent certainly, but with so little interval between him and the preceding culprit that the line could not be drawn between them; and in this way, I am fully persuaded you might find almost imperceptible degrees of decreasing fatness, which would carry you from the most unwieldy to the leanest animal

[37] 'Modern Pig Breeding', *J.B.W.E.S.*, **19** (1887-8), p. 43.

[38] 'Mr Fawcett's suggestions' *F.M.*, (3) **47** (1875), p. 98.

> in the yard, without a possibility of stopping anywhere and saying, Thus far will I go, and no farther.[39]

It would seem, on hindsight, that the only way the problem could be resolved was by changing the objectives of stock-breeding and thus, the 'show condition' of stock. James Long argued in 1888 that the societies had to take the lead in changing the perceptions of what was acceptable and unacceptable in stock-breeding:

> It cannot be expected that any step in a new direction would be taken by an exhibitor who would practically sacrifice every prize for which he competed under present conditions. The Judges have not the power, even if they have the will, for whatever occurred under the judgement of men determined to strike out a new line at one show would be undone at every other, inasmuch as the pig exhibitors would decline to send their exhibits for judgement under men who decline to arbitrate according to recognized customs. What then is the alternative? There is no possible course which ought to be taken by leading Agricultural Societies themselves, who if they had the will to set about the work in right earnest should specify the type of animal which alone they were willing to encourage, and engage Judges who were willing to carry out the wishes of each Society.[40]

In theory, the societies claimed that they were aiming to improve the various breeds and the quality of meat for the butcher through awarding top-quality animals. In practice, however, stock premiums were awarded almost in an arbitrary fashion, for example, to the fattest beast in the yard or the animal that belonged to prominent breeders. Coupled to this was the inability of the RAS, as the leading national society to negotiate a compromise with the agricultural community and formulate some satisfactory form of judging criteria. All this served to undermine the objectives encouraged by the societies and led many to question the credibility of the societies as advocates of agricultural progress. It also gave rise to an increasing disillusionment

[39] H.S. Thompson in reply to F.H. Fawkes, 1847, no further details of date.

[40] 'Modern Pig Breeding', *J.B.W.E.S.*, **19** (1887-8), p.43.

with premiums. The issue of over-fat breeding stock questioned the significance of awarding premiums to encourage the wrong 'type' of animal. However, it did not question the validity of the premium system and threaten its existence as the issue of implements trials did. This will be discussed in the next section.

6.2 IMPLEMENTS TRIALS AND THE UNPOPULAR PREMIUM SYSTEM

As early as the 1840s, there were debates over the conduct of the trials of agricultural implements and machinery and the premium system. According to Goddard, the debate 'has gone largely unnoticed by historians of nineteenth century agriculture, apart from a recent brief comment by H.S.A. Fox.'[41] It was much more than an 'occasional' disagreement between manufacturers of agricultural machinery and the Society.[42] By the 1870s, Henry Corbet, defender of the premium system, noted that a 'periodical attack' on it was almost a 'certainty'.[43] The debate centred on the question of the organization and conduct of the trials, the virtue or otherwise of the system by which the agricultural implement firms had to compete with each other on the Society's trial grounds under public scrutiny, and the influence of the premiums on the development of agricultural implements.

The first RAS implement trial was an *ad hoc* trial of ploughs carried out at Aintree racecourse during the Liverpool show in 1841.[44] Problems were encountered immediately and generated considerable animosity between the Society, the implement makers and the leading agricultural commentators of the day. The report of the Liverpool show mentions that the brightly painted new ploughs were not the best for practical working being insufficiently 'worked-in' and there were delays by the press of spectators and most significantly, insufficient time to allow a proper trial, a recurrent criticism in the ensuing debate. The trials conducted at the Bristol show in the following year (1842) met with similar criticisms.[45] These reached a peak in Derby

[41] Goddard, thesis, p. 327; Fox, 'Local farmers' associations', p. 50.

[42] Orwin and Whetham, *History*, p. 102.

[43] 'Horse Shows and the Prize System' *F.M.*, (3) **38** (1871) p. 274.

[44] 'Liverpool Implement Report' *J.R.A.S.E.*, **3** (1842), pp. 102-118.

[45] 'Bristol Implement Report' *J.R.A.S.E.*, **4** (1843), p. 341.

in 1843 when William Shaw, the Secretary of the Society, was forced to admit in a *Mark Lane Express* leader that the Society's attempts to effect an adequate implement trial up to this time had 'wholly failed'.[46]

Evelyn Denison (later Lord Ossington) complained that he had taken a group of his tenants and a village implement maker to the show with the object of selecting the best tools and ascertaining the comparative merits of those in the same class. However, to his disappointment, the show had given little guidance in the matter of choice and selection of implements.[47] In an 'open letter' to Lord Spencer, a 'Plain Derbyshire Farmer' complained that some of the ploughing carried out at the trials was of a very inferior nature and that he had seen furrows of irregular width and depth. He claimed that if such ploughing had been seen in his own fields he would have been 'ashamed of both himself, his implements and his workmen'. Such an exhibition also prejudiced the cause of improvement because it helped to confirm the prejudices of the spectators. According to the 'Plain Derbyshire Farmer':

> 'Well, we are satisfied with our old ploughs now, eh, mates?' was a constant question. 'Why I think that we shall go home contented' the nearly uniform answer, whilst at every turn some lusty sexagenarian was seen instructing his chubby-faced nephews in the danger of novelty.[48]

Conflict between the Society and the manufacturers was becoming apparent at this time. The manufacturers' opposition to what was considered to be inadequate arrangements was led by J. Allen Ransome of the Ipswich agricultural implement-making firm of the same name. At the Council dinner during the show week, Ransome addressed some forcible remarks on the conduct and purpose of the trials. It is from this time that the almost universal opposition of the major implement firms can be distinguished. He called for more thorough trials carried out not just as an

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[46] 7 August 1843. Quoted in Goddard, thesis, p. 329.

[47] RAS Weekly Council, 19 July 1843; *F.M.*, (2) **8** (1843) p. 144.

[48] *Mark Lane Express*, 24 July 1843, quoted in Goddard, thesis, p. 330. See also report of Derby meeting, *F.M.* (2) **8** (1843), pp. 103-4, 119-20.

amusement for the crowd but as a demanding test of the best implements. If this was done, the awards would then be valued far beyond their nominal value.[49]

In spite of the problems involved, the implement department of the show expanded considerably over the next few years although some of the major firms such as Ransomes often refused to participate in the trials. This increase in the size added to the difficulty of adequate testing and inspection because ever more implements had to be considered in the allotted time. Finally, in 1855, two leading implement makers, Ransome and Garrett, called for a conference between the manufacturers and the Society. At this meeting, held in December that same year, it was proposed that in the future, implement trials should be confined to several categories of implements and these categories rotated on a triennial basis.[50] In February 1856, the following division of implements for trial was agreed to:

> 1856: Implements for tillage and drainage of land.
> (Ploughs, Harrows, Cultivators, Subsoilers, Clod-crushers, Rollers, Tile and Brick machines, Implements for Drainage)
>
> 1857: Implements for the cultivation and harvesting of crops.
> (Drills, Manure distributors, Horse hoes, Mowing machines, Reaping machines, Horse rakes, Carts, Wagons)
>
> 1858: Implements for the preparation of crops for market, or cattle food.
> (Engines, Thrashing machines, Dressing machines, Chaff engines, Mills, Oilcake breakers)[51]

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[49] *F.M.*, (2) **9** (1843) pp. 127-8.

[50] RAS Monthly Council, 7 Nov 1855; *F.M.*, (3) **8** (1855) p. 475; RAS Special Council, 12 December 1855; *F.M.*, (3) **9** (1856) p. 6.

[51] In addition, there were to be prizes for the best steam-cultivator and reaping machine, as well as departments for new and miscellaneous implements. RAS Monthly Council, 6 February 1856; *F.M.*, (3) **9** (1856) p. 201.

The implement manufacturers expressed satisfaction with the new arrangement but at the same time, launched a concerted attack against the continued operation of the premium system itself. A memorial signed by nearly all of the leading implement manufacturers of the day (eighty-two signatures) protested that the system of offering money premiums for competition among makers led to the production of 'ingenious peculiarities' rather than useful and practical machines. It pointed out that the premium system was unfair in operation because it led to undue acclaim of one to the deprecation of all the other competitors when the merits were frequently more or less equal.

After a period in which the manufacturers experimented with a wide variety of methods and devices, the major implements had become more uniform in their basic principles. As a consequence, it became increasingly difficult for the judges to distinguish sufficiently substantial innovation to justify the award of premiums. The manufacturers suggested that in place of the money premiums, reports by the judges should be given to the exhibitors before the general exhibition day. There was no objection to the award of large premiums to areas that needed encouragement (such as steam ploughing at the time) or to the distribution of medals for worthwhile inventions.[52]

The Bath and West was one of the first societies to grant certain concessions to the demands of the implements manufacturers 'to the effect that implements might be exhibited for inspection and sale, but not necessarily for trial.' It recognized that the implements made by the larger firms were 'so frequently alike in excellence that superiority in working is rather the effect of accident than of a real superiority in the construction of the machine or the implement itself.' Furthermore, the 'inconvenience' of competing at the shows organized by different societies

[52] 'Memorial Presented to the Council of the Royal Agricultural Society of England and the Committee on Implements' *F.M.*, (3) 9 (1856) pp. 205-6. It is interesting that the manufacturers operated in loose association at this time, as the date of the foundation of the Association of Agricultural Engineers is usually taken as 1875. See R. Trow-Smith, *Power on the Land: A Centenary History of the Agricultural Engineers Association, 1875-1975* (1976).

throughout the year which 'succeed each other so rapidly, begins to be seriously felt.' As a result of these deliberations, the Bath and West abandoned implement competitions among the large manufacturers and premiums were only distributed among the local and other small makers 'who otherwise might not have stood so good a chance.'[53]

However, the actions of the Bath and West were not typical and the implement makers' recommendation did not receive any support from the RAS, the provincial societies and the wider agricultural community in general, who were not prepared to give up the system. William Torr insisted that the implement manufacturers had combined essentially to prevent open competition between them so that they could protect their position against any new entrants into the business, especially if the newcomers should happen to obtain a premium and gain prominence at the expense of the well-established firms.[54] This theme was echoed in the *Farmers Magazine*:

> One thing is certain, that henceforth all must come into the yard on equal terms. Exhibitors, in a word, must enter on those terms the Society directs; or if, indeed, any other course to be suffered to become a precedent, the association will soon lose all its importance and authority, and sink into something little better than a bazaar or local advertisement...it will be necessary to ensure a far greater amount of unanimity than appears at present to exist. To become amongst the best every man must do his best, and whether the breeder of a sheep or short-horn, the 'maker' of a hunter, or the manufacturer of an implement, he must not fear the competition, or occasionally the triumph of a neighbour.[55]

Corbet, who always vigorously defended the premium system, added that it was the award of premiums that constantly kept alive the spirit of agricultural improvement.[56]

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[53] *F.M.* (3), **10** (1856), p. 49.

[54] *Agric. Gazette*, 4 October 1856. Quoted in Goddard, thesis, p. 334.

[55] *F.M.* (3), **10** (1856), p. 229.

[56] 'The Implement Makers and the Royal Agricultural Society' *F.M.*, (3) **9** (1856) pp. 204-5.

Undeterred, the concerted campaign of the implement manufacturers against the premium system was carried further by the publication of two pamphlets in 1857 that generated a great deal of attention. These were William Day's *Mechanical Science and the Premium System in Relation to Agriculture* and *The Manufacture of Agricultural Machinery considered as a Branch of National Industry* by 'A Manufacturer' for the 'Association of Agricultural Engineers'.[57] Day reiterated the manufacturers' memorial of 1855 and stressed that whatever utility the premium system may have had in the early years of its operation, the tendency was now for it to encourage novelty without practical purpose. He also observed that constant alteration and modification of machinery made necessary by annual competition prevented implements from becoming cheaper as there was less opportunity to practice economies of scale in manufacturing.[58] The 'Manufacturer' reviewed the rise and progress of the implement trade and while acknowledging the part played by the RAS stressed other influencing factors such as the agricultural press and the cheapening of transport due to the extension of the railway. The pamphlet delivered a blistering attack on the premium system:

> [Premiums] have lost their significance, and the application of further stimulus would prove injurious...We have reached a stage when artificial stimulus is needless and baneful...Such a state of progress has been obtained, that machinery may be left to the simple principles which regulate the business of bargain and sale all the world over...By the [premium] system, the energy of the manufacturer is dissipated in frivolous rivalry...He is unnerved by the anxiety consequent upon ceaseless excitement...Great expense is entailed upon the manufacturer by these competitive trials, and an extra percentage to cover

[57] Day was editor of the *Jersey Argus*. The formal Association of Agricultural Engineers, as indicated in an earlier footnote [SIX (6.2) fn 52] did not materialize till 1875. The 'Association of Agricultural Engineers' represented by the 'Manufacturer' was probably a loose term of alliance used by the writer of the pamphlet.

[58] W. Day, *Mechanical Science and the Premium System*, p. 43.

> such must be paid by the purchaser...This is the only branch of industry subject to artificial stimulus.[59]

In the place of premiums, the pamphlet called for elaborate reports that 'should not be drawn up in a *competition* spirit, but should be a plain statement of facts'. Data for these comprehensive reports would be provided by longer trials geared to the ordinary practice of farming and a committee formed by the Society consisting of a consulting engineer and farmers to determine 'points of excellence' in agricultural machinery and the relative importance of each point.[60]

A review of *The Manufacture of Agricultural Machinery* in the *Farmer's Magazine* did not think that the 'Association of Agricultural Engineers' had made out a case and found little merit in their suggestion that there should be straightforward reports rather than premiums with no indication of relative merit.[61] Another review of the pamphlets found little in the arguments against the system, but conceded that much depended on how the trials were conducted. If carried out properly, it would be a matter of little substance as to whether the value of any particular machine was expressed in a 'favourable report' or a twenty pound note. 'Catalogues would read as well with "took the first class report in Warwick", in flaming capitals as "took the first premium of ten pounds at Salisbury."'[62]

It was generally felt that the sub-division of the implements for trials into three years invalidated the manufacturers' objections. Supporters of the premium system, such as Henry Corbet, admitted that errors had been made in the early years of the trials. However, it was felt that by the late 1850s, it could be confidently asserted that 'no-one can mention a single prize implement at any of the great shows that is not well adapted for the every-day purposes of the farm, nor point out a novelty which has

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[59] Quoted in 'The Prize System - as now opposed by the Implement Makers' *F.M.*, (3) **12** (1857) p. 117.

[60] 'A Manufacturer', *The Manufacture of Agricultural Machinery*, pp. 19-22.

[61] 'The Prize System' *F.M.*, (3) **12** (1857) pp. 116-7.

[62] 'R.S.B.', ''Agricultural Machinery, and the Prize System' *F.M.*, (3) **16** (1859) p. 296.

received a certificate of merit that is not a useful and meritorious invention'.[63] The criticism of too hurried a trial no longer held up from the RAS Carlisle show onwards (1858) when the trials that formerly occupied three or four days for all implements extended over eight days for only a third of the implements. It was also maintained that the Society's jury of practical farmers, aided by its consulting engineer and other men of science with a full range of testing equipment at their disposal, were well able to find out some useful information during the course of a trial.[64]

Matters got progressively worse. Twelve of the leading implement making firms organized a boycott of the RAS Canterbury show in 1859.[65] Their reason for taking such extreme action was not clear at the time of the show in May 1860. The immediate point of contention appears to have been that the Canterbury Local Committee wanted a ploughing match held under its own auspices that the manufacturers chose to interpret as breaking faith with the quadrennial division decided upon in 1859. The conclusion in the *Farmers' Magazine* was that the 'conduct of the great implement houses is to the world at large incomprehensible'.[66] It is also possible that the implement makers were influenced by another factor: the abolition of premiums for the implements section by the Bath and West the year before.[67] Instead of awarding premiums, it adopted the 'principle of Exhibition and Bazaar'. Thomas Dyke Acland, the dominant figure of the Society then, justified the

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[63] Quoted in Goddard, thesis, p. 336.

[64] 'Agricultural Implements and the Prize System' *F.M.*, (3) **15** (1859) p. 269.

[65] The boycotters included: Barrett, Exall and Andrews; Clayton and Shuttleworth. Croskill and Co.; Garrett and Sons; Hornsby and Sons; J. And F. Howard; W.H. Nicholson; Ransomes and Sims; B. Samuelson; Smith and Sons; Tuxford and Sons and Whitehouse and Co.. The boycott was not limited to the RAS. The North Lincolnshire Agricultural Society reported 'a nearly unanimous resolve to draw back from the influence of an award' They added, 'There is no denying that this spirit of dissatisfaction has been increasing for some time past... there must be something wrong somewhere. The aim must be to discover where this is - we see plainly how injuriously it acts.' *F.M.* (3), **10** (1856), p. 229.

[66] 'What the Implement Makers Want' *F.M.*, (3) **29** (1866) pp. 41-2.

[67] Some of the local societies did not have the resources to carry out full-scale trials and to award premiums. Others, like the Norfolk Society offered premiums for the best collection rather than for individual implements. *F.M.*, (3) **15** (1859) p. 329.

decision by claiming that farmers were the best judge of what to buy and did not need the guidance of premiums awarded under rather artificial conditions.[68] Thus, it is very likely that the manufacturers were trying to make the RAS abandon both implement premiums and trials.

Eventually, the manufacturers' reasons for the boycott were published in *Newton's London Journal of Arts and Sciences*: (1) that the Society had broken faith with the exhibitors in departing from the quadrennial division (this referred to the local committee's premiums at Canterbury); (2) that the premium lists were so indefinitely worded that the manufacturers were unsure of the kind of machines that the Society wished to encourage; (3) that the trials were unsatisfactory and the awards capricious, insofar that the time devoted to the trials was very limited and there were no fixed principles of judging laid down for the guidance of judges; (4) that the exhibitors had no power to object to the appointment of the judges, whether on the ground of their competency, or their business relations, or to the choice of the consulting engineer, who stood in the position of umpire; (5) that the reports of the trials were meagre, inaccurate and incomplete, and published so long after the show as to be of little service either to the public or to the trade; (6) that the expenses of attending, exhibiting and competing for premiums had so much increased that the business resulting from attendance at the RAS show was no longer commensurate with the outlay that was required.[69]

Ransomes, the implement making firm gave detailed reasons for their refusal to exhibit at Canterbury (1860) and Leeds (1861). They claimed that, although they had been immensely successful in winning premiums and commendations up to that time, their 'exertion and outlay' were no longer adequately repaid. According to Ransomes, remuneration for exhibiting could be expected by (1) direct sales in the saleyards; (2) by subsequent sales in the show district; (3) by increased sales at home and overseas

[68] T.D. Acland to editor of *Oxford Journal*, *ibid.*, p. 330.

[69] 'The Royal Agricultural Society and the Implement Makers' *Newton's London Journal of Arts and Sciences*, **68** (1860) p. 67. See also comment on the *Newton's Journal* article in 'Implement Makers and Implement Prizes' *F.M.*, (3) **18** (1860) pp. 341-2.

as a consequence of winning the Society's premiums; (4) and by the value that the public put on the premiums as evidence of character of the manufacturer and of the excellence of his productions. Ransomes were prepared to admit to the validity of the first three points but considered that the awards of the Society could no longer be considered a solid guarantee of excellence to the public. Furthermore, they took the view that the outcome of the trials did not materially affect their standing with the agricultural public so that their expenses and exertions were not justified on commercial criteria. They claimed that they had not been given satisfactory information by the Council on the interpretation of the premium list for Canterbury, or assurances on the conduct of the trials. Ransomes felt that manufacturers with good reputations to maintain did not need to compete and even if they did, changes had to be made to the existing trials. Ransomes asked for trials of much longer duration, conducted at a suitable season under conditions approximating to those likely to be experienced in everyday use with proper mechanical staff and well-informed men to act as judges, reports of the trials and reasons for the decisions to be made on the premium lists, and less frequent trials of well established implements.[70]

How far then did the manufacturers have a valid case in their persistent complaints? Certainly the trials were at times superficial and carried out under adverse conditions. Ploughing grounds were often baked hard in July while crops were sometimes still green for the reaping machine trials. After a period of rapid developments in the 1840s it was probably true that in the standard implements, such as ploughs, harrows, and rollers, there was not much to choose between the products of the major implement houses. Thus, to give a premium to one, with the rest 'no-where', was to give rise to an understandable cause for resentment. As Morton put it, it was impossible to 'fish out the microscopic differences which may exist' in a few hours' trial.[71] There was also truth in the oft-stated claim that the awards were sometimes more of a reflection on the skill of the ploughmen than on the actual quality of the

[70] Ransome and Sims, *Reasons for not exhibiting at the RASE. Meeting Canterbury 1860 and Leeds 1861* (1861). This was given wide distribution by the newspapers. There is a copy in the Ransome's archives at the Museum of English Rural Life, University of Reading. TR/RAN/PI/AS/R55.

[71] 'Agricultural Progress', p. 64.

machine and that the Society and the system encouraged the production of machinery more suited to winning premiums than to practical work. The degree to which the need to compete and make perpetual small modifications to the implements significantly increased the price of the products to the farmer is difficult to quantify. Richard Garrett claimed that his costs in the first twenty-one RAS shows came to no less than £30,000 with special staff who were up to all the 'dodges'. The expenditure had not been justified as some customers specifically asked not to have a premium-winning machine because it would not answer to their purposes.[72]

The manufacturers sometimes attacked the Society's consulting engineer who was in charge of testing. In 1864, James Howard called on C.E. Amos, the consulting engineer of the Society, to resign because the latter's firm, Amos & Easton, was regularly engaged in trading in agricultural implements and thus, the independence of his judgement was under question. There is little to support the view that Amos's work was biased and the Council refused to entertain these complaints.[73]

Though some of the manufacturers' complaints were not without substance, the agricultural community for the most part took the view that the trials were worthwhile despite the acknowledged imperfections and suspected that the chief cause of the implement-makers' hostility was their desire to preserve their established positions and make it more difficult for new men to enter the field. It is difficult to ascertain how far this was an underlying motive for the manufacturers' continued onslaught against the premium system but there is limited evidence that suggests that the leading firms had very tight control of the home market and were determined to maintain their hold over it. This is evident in the controversy over the leading firms' refusal to supply the Agricultural Cooperative Association with their products in bulk at discount prices, preferring instead to maintain a monopoly of selling agents whose margin was in excess of 20%.[74] It was for this reason also that the manufacturers

[72] Letter, *Agric. Gazette*, 16 January 1864.

[73] *F.M.*, (3) **25** (1864) pp. 228-9; RAS Monthly Council, 14 May 1864; *F.M.*, (3) **25** (1864) pp. 502-3.

[74] *Agric. Economist*, 1 June 1871.

refused any discount to customers buying directly through the RAS show and James Howard was bitterly attacked when he gave a dinner for 500 of his agents on the eve of the 1874 show.[75] The concern to maintain established positions on the part of the firms is therefore quite a possible motive that led to the manufacturers' antipathy towards the trials. The most just criticism of the Society is that it continued to conduct trials for well-known implements while remaining vague when laying down the specifications of the sort of improvements required.

The 1860s and 1870s saw a movement by the Society towards at least some of the principles that had been urged for so long by the manufacturers. In 1868, on the motion of Joseph Shuttleworth, an implement manufacturer himself, the RAS invited the manufacturers to confer with the Implement Committee over the future arrangements of the trials. The deputation urged their predictable demands - a further sub-division, certificates or medals instead of money premiums, the cessation of premiums for certain machines, the appointment of juries of qualified mechanical engineers and practical farmers, reports of trials carried out before the show to be sold with the catalogue, and more manufacturers to be given seats in the Council. The RAS did not agree to all of the requests, but some concessions were made: three judges for each trial, the premium-list to be published at least twelve months in advance of the meeting, the trials to be concluded before the general opening of the show to the public. In addition, a quintennial division was introduced.[76]

In the 1870s, the incentive to making concessions came from concern over the mounting cost of the trials. The question was asked whether useful results could not be obtained for less cost because the RAS had already incurred a loss of some £4000 at Oxford (1870) and Wolverhampton (1871). The trials seemed an obvious item where economies might be made. A Special Committee on Receipts and Expenditure,

[75] *Agric. Economist*, 1 November 1871, 1 August 1874.

[76] At the Leicester show of 1868 it was requested that the horse-power tillage implements to be tried should be sent by 7 July and it was stated that there would be further trial of steam cultivation machinery after the harvest, a preliminary selection only having been made at the time of the show. RAS Monthly Council, 5 February 1868; *F.M.*, (3) **33** (1868), pp. 264, 340.

appointed in November 1871, examined ways of saving money which included the possibility of further extending the quintennial system adopted in 1868. This development prompted further activity on the part of the manufacturers who held a meeting at the Salisbury Hotel on 27 February 1873. They resolved to urge upon the Council their old point of abandoning the premium system in favour of carrying out thorough trials at a suitable time of the year with a comprehensive report.[77] The Council was not prepared to accede to the manufacturer's request to abandon implement premiums at this stage.[78]

One of the disadvantages of the Society's rotational divisions was that in a time of rapid change, it pre-supposed the pattern of implement development for nearly a decade. The rotational system of the RAS expanded from three-fold in 1856, to four-fold in 1859, to five-fold in 1869. In 1873, a nine-fold division was proposed. Such a division, if agreed to, would have pre-determined the trials for a period up to 1881. These divisions set out the types of implements the Society would be judging in any one year. [See *table 6.1*] It would follow that implement makers, in anticipation of winning a premium at the trials would concentrate their efforts on developing implements stipulated in the premium lists of the Society for that year.[79] Even if something came up that was particularly deserving of attention but did not fall within the Society's categories for that year, it would have had to wait three or four years before trying it.[80] In this way, the Society could profoundly affect the development of agricultural implements and machinery.

The nine-fold division of trials was not followed through because in 1874 there was renewed pressure from the Society's Finance Committee to reduce show expenditure. Charles Randall and Col. Nigel Kingscote maintained that the trials had been pushed

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[77] RAS Monthly Council, 6 December 1871; *F.M.*, (3) **41** (1872), p. 62; RAS Monthly Council, 5 June 1872; *F.M.* (3) **42** (1872), pp. 4-5. See also 'The Smithfield Club Show Week' *ibid.*, **41**, p. 43.

[78] RAS Monthly Council, 2 April 1873; *F.M.*, (3) **43** (1873) p. 482.

[79] RAS Monthly Council, 5 May 1858; *F.M.*, (3) **13** (1858) p. 519; 'The Royal Agricultural Society - Proceedings in Council' *ibid.*, pp. 495-6; RAS Monthly Council, 1 December 1858; *F.M.*, (3) **15** (1859) p. 74.

[80] *F.M.*, (3) **43** (1873) p. 56.

too far, that they were too costly to the Society, and that repeated trials of standard implements did little good because the distinctions to be drawn were so fine. Instead, it was recommended that the Society's trials should be essentially confined to inventions or new developments. There was no uniformity of opinion on the Council that this course was the right one to follow but gradually the scheme of adopting a much more limited trial was supported.[81]

It was only at this time, that the RAS began to discuss seriously the abolition of implement trials and premiums. In the event, a compromise was reached whereby the classes of machinery kept for test were much reduced, being restricted to those in which there was most interest and progress at the time, with trials on alternate years only. Premiums for implements were also drastically limited with silver medals for inventions only. As a result, the trial for 1876 was restricted to reaping-machines and sheaf-binders only.[82] This pattern was followed in Liverpool (1877) and Bristol (1878) where there was a trial of automatic sheaf-binders only. Thus, 1876 marked a turning point in the development of the premium system. While premiums were not abandoned entirely, they were severely restricted and became more like show souvenirs than emblems of honour.

These changes were inevitable given the great increase in the variety and excellence of agricultural machinery in the period when the premium system was losing its popularity. It is surprising that with all the uproar, it took the RAS over three decades to yield to the pressures of the implement makers. In a large part, this was due to the inability of the agricultural community to come to a compromise regarding the implement premiums (and premiums in general). On one side of the debate was J. Chalmers Morton who was critical of the conduct of the implement trials at the early

[81] It may also be noted that Col. Challoner, one of the 'old guard' on the Council who had staunchly promoted the traditional scheme through his position as Chairman of the Implement Committee, had died in 1873.

[82] RAS Monthly Council, 9 December 1874; *F.M.*, (3) **47** (1875) p. 50; RAS Monthly Council, 3 March 1875; *F.M.*, (3) **47** (1875) p. 271; RAS Monthly Council, 8 December 1875; *F.M.*, (3) **49** (1876) p. 53. See also *J.R.A.S.E.* implement reports.

Year	Implements
1856	**Three-fold division - Year 1: Ploughs, Harrows, Cultivators, Subsoilers, Clod-crushers, Rollers, Tile and Brick machines, Implements for Drainage (Implements for tillage and drainage of land)**
1857	**Year 2: Drills, Manure distributors, Horse hoes, Mowing machines, Reaping machines, Horse rakes, Carts, Wagons (Implements for the cultivation and harvesting of crops)**
1858	**Year 3: Engines, Thrashing machines, Dressing machines, Chaff engines, Mills, Oilcake breakers (Implements for the preparation of crops for market, or cattle food)**[83]
1859	*Four-fold division - Year 1: Ploughs, Harrows, Cultivators, Rollers, Tile and Brick machines, Draining Machines*
1860:.	*Year 2: Combined and other Thrashing Machines, Chaff Cutters, Mills, Oilcake Breakers.*
1861:	*Year 3: Drills, Manure Distributors, Horse Hoes, Hay Machines, Mowing Machines, Reaping Machines, Horse Rakes, Carts, Wagons*
1862:	*Year 4: Fixed and Portable Steam Engines, Fixed and Portable Finishing Machines, Hand Dressing Machines, Barley Hummellers.*
1863	*Year 1: Ploughs, Harrows, Cultivators, Rollers, Tile and Brick machines, Draining Machines*
1864	*Year 2: Combined and other Thrashing Machines, Chaff Cutters, Mills, Oilcake Breakers.*
1865	*Year 3: Drills, Manure Distributors, Horse Hoes, Hay Machines, Mowing Machines, Reaping Machines, Horse Rakes, Carts, Wagons*
1866	*Year 4: Fixed and Portable Steam Engines, Fixed and Portable Finishing Machines, Hand Dressing Machines, Barley Hummellers.*
1867	*Year 1: Ploughs, Harrows, Cultivators, Rollers, Tile and Brick machines, Draining Machines*
1868	*Year 2: Combined and other Thrashing Machines, Chaff Cutters, Mills, Oilcake Breakers.*
1869	Five-fold division - Year 1: Machines and Implements for Harvesting Crops
1870	Year 2: Fixed Engines, worked by steam and other power, and machines for Preparing Food for Stock
1871	Year 3: Machinery for the Cultivation of Land by Steam Power and Traction Engine
1872:	Year 4: Portable Steam Engines and Machines and Implements for Preparing Crops for Market.
1873	Year 5: Machinery and Implements for the Tillage of the land by Horse-Power

Table 6.1 : William Shaw's rotational divisions for the RAS implement trials, 1856-1873.

Source : *F.M.* (3), **9** (1856) p. 201; *F.M.* (3), **15** (1859), p. 74; *F.M.* (3), **33** (1868), p. 264.

[83] In addition, there were to be prizes for the best steam-cultivator and reaping machine, as well as departments for new and miscellaneous implements. *F.M.*, (3) **9** (1856) p. 201.

stage in their development.[84] His objections echoed those of the implement makers - that awards were made on the basis of an insufficient trial, at the wrong time of the year, conferred too great an advantage on pure novelty, and disorganized the routine of work of the implement factories. In support of these contentions, Morton produced some interesting evidence. He maintained that he had examples of implements - he did not give specific names - whose sales had been given no extra impetus when they received a prize. Others had been consistently rewarded but never came into general use. One firm had followed the advice of judges for improvements and as a consequence, its sales fell steadily from seven to eight hundred implements annually to no more than fifty.

> At length the manufacturer called his men together, that they might consult in order to recover the art they had lost. 'You have been bamboozled,' he said, 'out of your ability by following false leadership. Here is one of the old tools, made twenty years ago; copy it in every particular.' 'Ah! Mr ---,' said one of his customers shortly afterwards - one who had complained of a machine he had previously bought, - 'this one answers perfectly; you have learned at length to make the tool work.' He had but retraced the steps of twenty years' false learning.[85]

On the other side of the argument was H.S. Thompson who maintained that the opponents focused their attention too much on the defects and shortcomings of the premium system, some of which were readily admitted. Thompson, like the majority of the agricultural community, preferred to keep the system that he believed was useful in deciding the merits of the various implements on offer and to encouraging improvements.[86]

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[84] The clearest statement of his views is to be found in an important paper he had given to the Society of Arts in 1863. J.C. Morton, 'Agricultural Progress: Its Helps and Hinderances' *J.R.S.A.*, **12** (1863-4), pp. 54-69.

[85] *Ibid.*, pp. 64-5.

[86] Thompson, 'Agricultural progress', pp. 11-18.

Much of the support of the wider agricultural community was derived from their enthusiasm for the 'entertainment' value of the trials and premiums - the spirit of competition between the leading firms pitting their best implements against each other on the trial field. Therefore, it is not difficult to anticipate that a non-competitive trial with detailed reports rather than premiums might have rather more limited appeal for the spectators.

The Bath and West, who had been one of the first to discard implement trials and premiums, was the most frequently cited example. Despite the leading implement makers' promise of an outstanding display of implements in return for the Bath and West Society's agreement to discontinue competitive trials, attendance suffered: 'Wells [1862] *was* the finest collection that was ever seen - and nobody came to see it!'[87] 'At Hereford [1865] [Mr Barford] watched the trial of the mowing machines, and it was a most stupid affair with the absence of competition...he never saw anything more hollow and uninteresting.'[88] The absence of premiums led to a certain 'lack of spice' at these agricultural shows. The Bath and West ploughing match at Taunton in 1870 was like 'a salad without the dressing, an opera without the orchestra, or a battle fought with blank cartridge'.[89]

Corbet maintained that the time for abandoning the system of premiums would 'never come' and that the abolition of trials would be 'ill-advised and injudicious'. The *Agricultural Economist* condemned such a proposal as 'suicidal'.[90] Morton, on the other hand, was on the Council of the Agricultural Engineers' Association that urged the abandonment of the premium system. In contrast, Corbet continued to oppose such a change to the end of his career. In 1875, he thought the idea of a London show for the Royal without trials or premiums to be 'without interest'.[91]

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[87] *F.M.*, (3) **22** (1862), p. 527. There were 108 exhibitors displaying a total of 1182 implements, *J.B.W.E.S.* Catalogue (1862).

[88] 'The Prize System', *F.M.* (3), **29** (1866), p. 403.

[89] *F.M.*, (3) **38** (1870) pp. 12.

[90] 'Implement Makers and the Prize System' *F.M.*, (3) **43** (1873), p. 383; 'Implement Trials and Premiums' *F.M.*, (3) **47** (1875) pp. 229-30.

[91] 'The Working of the Prize System' *F.M.*, (3) **48** (1875) pp. 406-7.

6.3 TRANSITION FROM A PREMIUM TO A TOKEN PRIZE SYSTEM

The debate about the premium system was not restricted to the agricultural community. The International Exhibition of 1862 stimulated further interest in the issues raised in the disputes between the RAS and the agricultural community. The discussion centred on the necessity of the premium system for encouraging invention and improvements:

> The offer of prizes for standard articles of trade, such for example, as cloths, clocks, musical instruments, steam engines, cutlery, and agricultural machinery, assumes: 1st. That customers are not competent to select what they require. 2nd. That there are tests or trials by which the marketable value of the articles in competition can be ascertained. 3rd. That judges can be found competent enough to direct and appreciate the comparative tests, and sufficiently free from local or natural prejudices to be impartial. 4th. That there is some security that the articles rewarded are average specimens of the goods the successful manufacturer has sold or intends to sell. On one or all of these points, it will be found on examining the record of prize-giving exhibitions, that *the prize system has invariably broken down.*[92]

The opinions of the non-agricultural community certainly mirrored those of the indignant within agricultural circles. This reflected a general trend in society at large which was getting disillusioned with prizes as stimulants to improvements in manufactures or agriculture. The agricultural community in general tended to be in favour of the premium system. Corbet maintained that the award of premiums had brought the best agricultural implements into general use.[93] In support for the continuance of the premium system, a contemporary felt that premiums were still needed to foster further developments in agriculture:

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[92] Emphasis added. S. Sidney, 'On the Effect of Prizes on Manufactures' *J.R.S.A.*, **10** (1861-2), p. 375.

[93] Goddard, thesis, , p. 341.

> Our leading men in any given mechanical department may advocate its [the premium system] extinction. They have had their day, and are now enjoying the fruit of their inventive ingenuity, judgment, and industry; but what are our rising men to do? They are not, nor will not, be satisfied with things as they are. Perfection is not reached in any one phase of agriculture yet. Breeding will aim still higher; mechanics will continue to invent or improve upon older inventions; scientific men will write essays. Why are they not to be stimulated by competition? It is not so much the value of the prize, as the distinction, the honour of having won it.[94]

However, there were others who felt that the premium system was unnecessary for the encouragement of agricultural progress:

> It has struck me as a remarkable circumstance that it is reckoned necessary to hold out premiums to induce a man to exert himself for his own advantage. Self-interest is the ground spring of human action and if any man will not exert himself for his own profit I should consider him almost past redemption.[95]

The writer added that no Society rewarded the manufacturer to adopt the spinning jenny or the mule.[96] There was also objection to the way that premiums were being used by some farmers to advertise their own 'products':

> There are on either side of the Border people who are ready and willing to make use of a public exhibition chiefly to parade their own names and wares. Thus, a man in the exercise of his liberality will offer from his own pocket premiums for foals by his horse, or roots grown with his manures, or for

[94] 'P.F.', 'The Prize System' *F.M.* (3), **25** (1864) pp. 148-9.

[95] 'Rusticus' *F.M.*, (1) **8** (1838) p. 163.

[96] Such sentiments were sometimes repeated in the local press. See for example 'Agricola' (Ed.), *Letters on the Rules and Regulations of Agricultural Societies'* (1842). This was originally published in the *Chester Courant*, 1840-1.

> cereals from his seed; as at a very small local show such additions to the prize-sheet may be welcomed by the management, if, under any circumstances we question the policy of their acceptance or their utility in the result. The great good of competition is the legitimate advertisement which necessarily follows from one exhibitor beating all the others, on at least comparatively open terms, the limit of which extends to the county, if not to the world. Anything more circumscribed than this should be held on the home of the donor, whose main conditions are that you shall use his horse, his phosphates, or his corn. Some, however, go further, and insist not only on framing their own rules, but on naming their own judges, as we have known a man go as far to walk into the ring and distribute his own petty premiums! This might do very well in his own grounds, as the excuse for a little holiday entertainment for his friends, tenants, and neighbours, but is alike an abuse and an impertinence on a public show ground.[97]

Samuel Sidney argued that the premium system had 'failed to reward improvements of the highest importance.' Instead, it had rewarded 'perfectly useless inventions'.[98]:

> A vague impression no doubt prevails that prizes have produced extraordinary improvement in certain trades, but when we proceed from generalities to particulars, and seek direct evidence in support of this opinion...at the annual distributions of those British Societies which include prizes amongst other means of encouraging commercial and manufacturing enterprise, we are strangely disappointed. We turn over page after page, year after year, of awards, without finding an instance of remarkable inventions brought to light, or of obscure merit discovered and rewarded.[99]

The award of prizes was a 'pleasant occupation for amateurs' which was justified for academic excellence, sport, skill, or horse-racing but was inappropriate for matters of

[97] 'The show season' *F.M.*, **47** (1875), p. 405.

[98] Sidney, 'Effect of prizes' *J.R.S.A.*, **10** (1861-2), p. 377.

[99] *Ibid.*, p. 374.

business or invention. Any improvement in a particular trade was due to increasing demand and the competition between manufacturers to satisfy that demand:

> It can be shown that rewards of a very munificent character have failed to develop mechanical inventions, which at a later date, when a national demand required them, were made and adopted without the stimulus or honour of medal or prize money...It is possible that in a country where manufactures were of artificial growth, where success of every kind is expected to be rewarded by the State, where a strictly protective system has accustomed manufacturers to look for official assistance and official reward, a medal or a riband may have a more powerful effect than on our matter-of-fact manufacturers, who concentrate their hopes and exertions in obtaining a reputation and customers. But it is quite certain that in any country where the spirit of commercial enterprise is widely diffused, the profits of useful inventions and successful manufactures far exceed in value any prizes that can be offered by a non-commercial society, or even a government.[100]

Sidney's main objection was that premiums did not encourage real improvements and were therefore useless. Furthermore, the public were the best judges of the value of every invention, and of the benefits of using it. Thus, the system of awarding premiums to 'worthless contrivances' and thereby raising them into 'injurious notoriety' was useless and should be abolished.[101]

Another factor that could have influenced the declining support of the premium system was the reorganization of the patent system. The archaic and costly procedures of the patent system had been a disincentive to apply for patent protection from the eighteenth century into the second half of the nineteenth century. However,

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[100] *Ibid.*, p. 375.

[101] *Ibid.*, pp. 375, 378. It is interesting to note that a generation earlier, Charles Babbage had scathingly said that 'Honours, rewards and medals were nothing more than the feeble expression of the sentiments of mankind.' C. Babbage, *Reflections on the Decline of Science in England and on some of its Causes* (1830), pp. 132-3.

the Patents Act of 1852 created a single United Kingdom patent to replace the separate patents of England, Scotland and Ireland, thus rationalizing the system.[102] The administrative process was simplified and a patent office was set up. The most drastic reform was to reduce the initial cost of obtaining patent protection in the United Kingdom from £300 to £25. This reduction and the simplified procedure resulted in a sharp increase in patent applications and grant. It is very likely that the reorganization of the patent system led to the decline in support for the premium system. [103]

There was also a general disillusionment with such contrived means of fostering innovation that led William Hawes to conclude that, like premiums, patents were 'unnecessary and mischievous'.[104] Henry Cole, initiator of the South Kensington Museum scheme, when asked in the 1864, why he did not offer premiums dismissed the idea entirely and claimed that premiums were only awarded to 'daughters of peers'.[105]

In the face of such criticisms and declining support, the premium system was often a subject for satirical comment. The premiums offered by the societies 'good conduct' were particularly open to the attacks of ridicule and sarcasm. [See *figure 6.6*] These observations tended to focus on the disparity between the value of premiums in this category and those of other categories: 'the sums of money offered as prizes for quadrupeds and those bestowed upon bipeds, seems to indicate that in the opinion of the managers the former occupied by far the most important place in the scale of creation'[106]:

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[102] 15 and 16 Vict. c.83.

[103] For the patent system as an alternative to the premium system, see EIGHT (8.2).

[104] William Hawes in Sidney, 'Effect of prizes' *J.R.S.A.*, **10** (1861-2), p. 378.

[105] *Report of the Minutes of Evidence of the House of Commons Standing Committee on Schools of Arts* (1864), p. 38. I am grateful to Susan Bennett and Alec Stirling for this information.

[106] The contributor, the implement maker A. Crosskill, was relieved to add that 'While the producer of the largest family is still able to carry off a prize for his successful exertions, various efforts that have been made to award premiums to his young stock have proved more or less abortive, and the periodical holding of baby shows - an American importation with which this country was at one time

> ...the spectacle of a local magnate or Member of Parliament bestowing two sovereigns and a pair of breeches upon a labourer for bringing up a large family or for twenty years of faithful servitude, while the same gentleman would think nothing of presenting a £5 note to the gamekeeper of a friend with whom he had been enjoying a few days shooting, or a still larger sum to a youthful jockey who had successfully ridden in a half-mile race, is one that will always furnish abundant matter for satirical remark.[107] [See *figure 6.7*]

It is evident from the various opinions held by the commentators of the day that the premium system was no longer held in the same esteem as it was in the eighteenth century. Premiums were no longer regarded as the vital key to stimulating improvements and they certainly did not generate the same sense of excitement as the premium lists of the early societies did. The premium system was no longer the central feature of the activities of the later societies. In the Victorian mentality, even the premium distribution ceremonies were tiresome. One commentator criticizes 'the terribly tedious manner in which the prize holders are called up to receive their reward.' He continues:

> Surely, all this could be expedited, or better still, got through at some other time. As it is, there is routine enough already in the business of any public dinner, without our elaborating it by the observance of a mere ceremony that might here be well dispensed with.[108]

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threatened - has suffered a natural and well-merited extinction.' 'The show season' *F.M.* **47** (1875), p. 405.

[107] *Ibid.*.

[108] 'Gathering of agricultural societies' *F.M.* (3), **10** (1856), p. 437.

Figure 6.6 : Viewing the Prize Beasts
Source : E. Moncreif, *Farm Animal Portraits* (1996).

Figure 6.7 : 'The Rivals' by Leech, 1846
Source : K. Hudson, *Patriotism with Profit* (1972).

On hindsight, the schism had occurred when the agricultural societies made the transition from premium-giving to show-organizing bodies. The activities of the early societies revolved around the premium system, setting offers, adjudicating claims and organizing distribution ceremonies. The later societies concentrated their efforts on organizing peripatetic shows. These shows were a great success, attracting large attendances and generating great interest. Concurrently, certain sections of the agricultural community were becoming increasingly dissatisfied with the premiums awarded at the shows. They objected to the way premiums were almost arbitrarily awarded to fat pigs that happened to take the judge's fancy or implements that happened to suit the trial ground that year. The essence of the problem was that premiums were 'apportioned, not according to real, but presumed merit, and a style of manufacture [or breeding] adopted solely for the purpose of excelling at competitive trials'.[109]

In the light of the controversies surrounding the premium system, the Victorian improvers felt that the premium system had served its purpose for their Georgian predecessors and was no longer useful for stimulating agricultural progress and development. While recognizing 'the good done by the prize system in the infancy of agricultural improvement', they also felt that it was no longer viable in their programme of agricultural advance.[110] The net result of the premium debate was a change in outlook of the agricultural societies towards the last decades of the nineteenth century. While the aims of generating and diffusing agricultural innovation remain unchanged, many societies changed tactics and adjusted the content of their activities in the light of their recent experiences. The 'duty of the wealthier classes to assist in the education of the humbler' was no longer a driving force in their

[109] 'Royal Agricultural Society and the implement makers', *Newton's London Journals of Arts and Sciences*, **68** (1860) p. 67.

[110] T.D. Acland to editor of *Oxford Journal*, *F.M.* (3), **15** (1859), p. 330.

activities.[111] The agricultural societies were appealing to the mass public, they were show organizers.[112]

By the late 1870s, the premium system had evolved from a highly regarded method of rewarding innovation to a token prize system that was little more than an item in the show programme. The transition to a prize system signalled the end of an era that had begun when the Society of Arts had offered the first madder premiums. Eighteenth century premiums, understood in Shipley's terms were held out as financial inducements, incentives, or rewards for improvement, or effort towards improvement. They were symbols of esteem and honour. The nineteenth century premium bore little resemblance to what Shipley had set out in his *Proposal* of 1753. They were token 'blue-ribbons' handed out in conjunction with the competitions organized by the societies during the show week to add to the atmosphere of the show.

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The declining popularity of the premiums had become apparent from the late 1840s onwards and the later societies' continued commitment to the premium system led to a controversy between the societies and the wider agricultural community. At the forefront of this controversy was the RAS. The debate centred upon the utility of premiums for agricultural progress and continued over the next few decades with many leading agriculturists of the day calling for the abolition of the premium system. Their main points of contention were the over-fat stock 'too dear to buy, too fat to eat' encouraged by premiums and the bias of premiums awarded at implement trials. The growing standardization of agricultural implements also made it harder to award premiums without appearing partial to certain firms. As a result of these events, the relevance of premiums was seriously challenged and the societies had readjusted their methods. The transition from a premium system actively rewarding innovation to a

[111] E. Baines, *National Education: An Address as Chairman of a Breakfast of the Congregational Union of England and Wales at Manchester, Friday 11 October 1867*, quoted in Morris, 'Clubs, societies and associations', p. 440.

[112] Morris calls this the 'move from evangelical seriousness to mid-century rational recreation', *ibid.*, p. 426.

token system awarding prizes that amounted to little more than 'show momentos' was complete by the late 1870s.

7. EVALUATION OF THE PREMIUM SYSTEM

The preceding five chapters have traced the origins, development and decline of the premium system and the evolution of the agricultural societies from premium-giving to show-organizing institutions. This chapter will consider the significance of premiums and the contribution of the agricultural societies in bringing about agricultural improvement. The assessment of the premium system and the societies in this chapter will be mainly based on a detailed analysis of three societies - the Society of Arts, the Bath and West and the RAS. These will be supplemented by evidence from other societies where appropriate. The extent to which the societies managed to achieve their aims can be judged from the degree of participation evident in membership lists, premium lists and attendance figures at the shows. These figures will illustrate the nature of the premiums offered and the characteristics of the winners. For example, a breakdown of the premiums offered reveals what was considered important by the societies. The number of premiums awarded by the societies illustrates the level of involvement and the propensity to compete among different groups of farmers. These contribute towards an understanding of the utility and significance of premiums in promoting agricultural innovation.

However, to measure the influence of the premium system beyond the realms of the society's premises and records, especially in quantitative terms, is almost an impossible task. Contemporary literature such as *The Farmers' Magazine* and Arthur Young's *Annals of Agriculture* have been consulted to provide the basis for a critique of the premium system and the agricultural societies. The lack of recorded evidence beyond these sources has made it difficult to provide conclusive answers to questions such as how many farmers were persuaded to change their methods of husbandry as a result of the premiums? how many more were influenced by the success of the premium-winning farmers in their neighbourhood? and what effect did the societies and premiums have on the advance of agriculture? Thus the conclusions presented in this section are speculative rather than definitive.

In view of the dramatic advances that took place in agricultural practice throughout the period under study, it would not be unreasonable to assume that premiums awarded by the agricultural societies had a role in stimulating innovation and encouraging the adoption of more productive methods of husbandry. This chapter will show that the agricultural societies and premiums went some way towards achieving this. However, their efforts were hindered by obstacles such as class divisions, farmers' resistance and the lack of funds.

7.1 ROLE OF THE PREMIUM SYSTEM

As we have seen, the premium system as a way of encouraging innovation was first proposed by William Shipley. It was adopted by the agricultural societies who used it as a reward system for innovators. Generally, premiums offered by the societies can be categorized as follow:

> 1st, For introducing what is new, or very little known.
> 2ndly, For improving what is already introduced and generally received. And
> 3rdly, For removing obstacles, and undertaking operations which could not otherwise be accomplished, except at an expence which they could not repay.[1]

The popularity of the premium system and the conviction of its utility as a method for encouraging improvement in the eighteenth century is apparent from contemporary accounts: 'Nothing can be so effectual for introducing new methods among farmers, as *premiums* for the best crops of corn, and the largest vegetables produced for the feeding of cattle, as turneps, cabbages, &c.'[2] These premiums 'for promoting the success of agriculture' were aimed at encouraging 'vigilant improving landlords...and active and enterprising tenants.'[3] However, both groups needed different kinds of encouragement and so the societies offered two kinds of premiums, honorary and monetary. The difference between these premiums was mainly in the inducement they offered to farmers. Honorary premiums were aimed at the leisured classes, the

[1] 'Cultor', 'Essays on Premiums' *F.M.*, 7 (1806), pp. 276.

[2] R. Weston, *Tracts on Practical Agriculture and Gardening, 2nd edition* (1773), p. 7.

[3] 'Autumnal Meetings of Agricultural Societies' *F.M.* **(3) 6** (1854), p. 314.

gentlemen farmers who had the time and money to spare and to whom social approbation was more important than finanicial reward. Tenant farmers who had to work the land for a living did not have the time or the inclination to compete for honorary premiums. Thus, in offering monetary premiums, the societies hoped that these would be sufficient inducement for participation.

The increasing popularity of the premium system during the eighteenth century is evident from the increase in the number of premiums offered by the Bath and West until the end of the eighteenth century. [See *figure 7.1*] The societies display similar patterns of premiums offered as these mostly reflected the perceived need of the day. Premiums were most commonly offered for agricultural operations, essays, new crops, improvements in stock-breeding, the invention and improvment of agricultural implements and machinery, improving the condition of the poor, agricultural labourers who brought up large famillies without parish aid, and faithful and industrious servants.

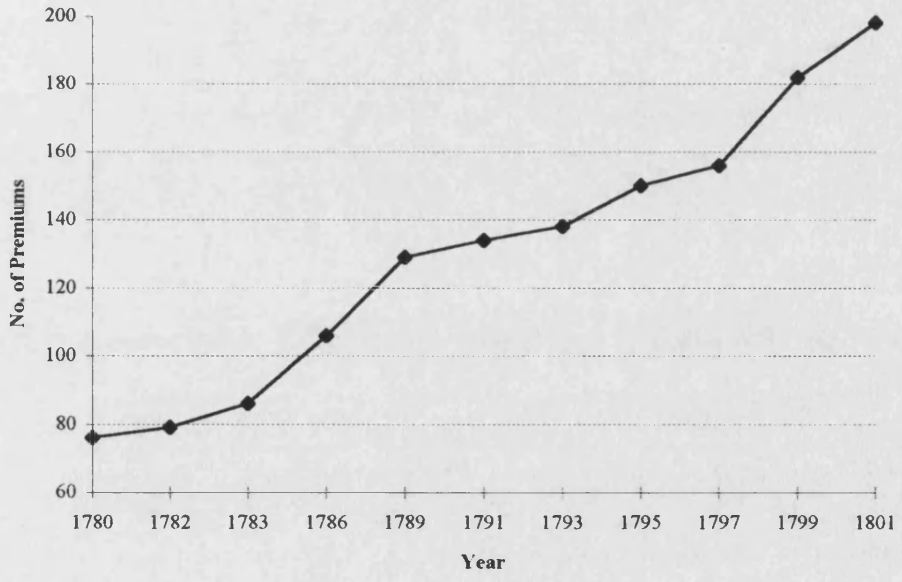

Figure 7.1 : Premiums Offered by the Bath and West Society in selected years between 1780 and 1801.

Source : B.W. *Rules, Orders...*(1780-1801).

These various categories can be differentiated between those for innovation (including invention, improvement and diffusion) and those for helping the poor, or 'social' premiums. The last three categories constitute 'social' premiums and everything else can be classified as 'innovation' premiums.

A breakdown of the premiums offered by the Bath and West reveals that 'innovation' premiums outnumbered 'social' premiums by a long way. [See *table 7.1*] This shows that the top priority of the Society was to foster improvement in agricultural practice. The highest number of premiums offered were for 'crops and plantations'. This was the most comprehensive class of premiums that included the planting of apple trees for cider (1791-1827); poppies for opium (1801-1811) and the planting of new crops such as turnips (1786-1815) and mangel-wurzel (1791-1801). The smallest category of premiums offered was for'Chemistry, Soils and Manures'. This was usually limited to ascertaining the composition of different types of soils, or the effectiveness of different types of manures.

Class	**No. of Premiums Offered**	**% of Total**
Innovation premiums:		
Agricultural Operations	184	14.6
Chemistry, Soils and Manures	52	4.1
Crops and Plantations	377	29.8
Essays	82	6.5
Livestock	278	22
Mechanics	101	8
Sub-total:	*1074*	*85*
'Social' premiums:		
Industry, good behaviour and large famillies	190	15
Total:	***1264***	***100%***

Table 7.1 : Premiums offered by the Bath and West, 1782-1826.
Source : B.W., *Rules, Orders...*, (1782-1826).

Category	No. of Premiums	% of Total	Amount	% of Total
'Innovation' premiums:				
Agricultural Operations	30	9.6	£84 16 *s.* 6 *d.*	6.1
Crops and Plantations	65	20.8	£464 5 *s.* 6 *d.*	33.4
Essays	9	2.9	£76 13 *s.* 0 *d.*	5.5
Livestock	29	9.3	£197 3 *s.* 0 *d.*	14.2
Mechanics	19	6	£109 5 *s.* 6 *d.*	7.9
Subtotal:	*152*	*48.6*	*£996 12 s. 6 d.*	*67.1*
'Social' premiums: Industry, good behaviour and large famillies	161	51.4	£457 2 *s.* 0 *d.*	32.9
Total	***313***	***100%***	***£1,389 5 s. 6 d.***	***100%***

Table 7.2 : Breakdown of premiums awarded by the Bath and West, 1777-99.
Source : *Letters and Papers* **10** (1805).

Table 7.2 demonstrates that the most number of premiums awarded by the Bath and West was for the 'industry and good behaviour' category. The popularity of this category has led some to conclude that the agricultural societies existed solely for such displays of patronage by the landed classes to their servants and labourers. This will be discussed in greater detail in the last section of this chapter. *Table 7.2* shows that the number of 'innovation' and 'social' premiums awarded were roughly equal (152 and 161). The difference lay in what the premiums were worth (£996 12*s.* 6*d.* as opposed to £457 2*s.*). The average 'innovation' premium was worth more than a 'social' premium. For example, the average premium in the 'crops and plantation' category was worth £7. In contrast, premiums for 'industry and good behaviour' were worth only two or three guineas each. Such differences in the value of premiums awarded was due to the perceived 'worth' of each category. £3 was considered a more than generous sum to a faithful and industrious servant. However, £7 was seen as a more appropriate sum to recompense the efforts of a farmer for planting a new crop. To further illustrate the point, the complexity of inventing an implement for measuring the resistance of ploughs was worth £20. It could be questioned if £7 for planting a crop of turnip-rooted cabbage or even if £20 for an improved chaff-cutter provided sufficient compensation for farmers' efforts. That is, was the amount at stake enough of an impetus for an individual to compete for the premiums offered.

In 1767, Arthur Young had criticized that some of the premiums offered by the Society of Arts in 1766 as not being financially attractive in proportion to the work required of those who competed for them.[4] In 1825, the Bath and West had offered a premium of £5 for the 'Invention and Improvement of Ploughs'. The subsequent lukewarm response to this premium could well be due to the lack of financial incentive. In some cases, it could be assumed that the competitors would be of such a type as to find these financial considerations immaterial. However, such individuals would be the exception rather than the rule. A contemporary felt that premiums should help offset a large proportion, if not all the costs, of agricultural improvement and experimentation:

> Many works, too onerous for an individual, or even for a flourishing company of individuals, may nevertheless be beneficial to the community. Such works, therefore, should experience a liberal share of public encouragement. A premium should be allowed, for carrying them on, of sufficient magnitude to defray a considerable part of the necessary outlay, especially where there is no reasonable prospect of a speedy return.[5]

An example would be the planting of timber trees where 'no profit could be derived for at least forty, if not sixty years'. 'A company of opulent individuals [was unlikely to] willingly engage in an enterprize, expensive and unproductive to themselves, when the return, however ample, [was] so extremely distant as to be reaped only by their children's children.'[6] However, in practice, premiums rarely amounted to full compensation for time, effort and capital outlay. The amounts awarded depended on the resources of the individual society. The larger national societies obviously had more financial resources than the smaller provincial societies and thus, were able to offer more generous premiums. For example, the first prize at a ploughing match conducted by the Society of Arts in 1766 was worth £50. In contrast, the first prize at

[4] Hudson & Luckhurst, *History*, p. 60.

[5] 'Cultor', 'Essay on premiums', p. 281.

[6] *Ibid.*, pp. 281-2.

a similar event organized by the Bath and West in 1787 was worth six guineas. Nonetheless, there was never a lack of farmers who participated in these matches and the significance of premiums was that they encouraged progressive agricultural practice.

Premiums were useful for encouraging specific improvements. The nature of the premiums offered over the years changed according to what was considered to be important by the societies. *Tables 7.3* and *7.4* illustrate the changing subjects of the premiums offered by the Bath and West and the Society of Arts under the 'crops and plantation' category over a forty year period. Some subjects that were considered to be particularly important remained unchanged but generally, the premiums tended to be offered over a few years and then discontinued.

Premiums were also useful for stimulating progressive practices, for example, premiums given at ploughing matches were particularly effective for encouraging farmers to adopt the latest implements available. As new practices did not guarantee profit, farmers would only experiment with such activities if there was a chance of obtaining some returns: 'No man of sense will substitute...a new article, of whose success he is doubtful, unless secured by a premium of indemnification and profit.'[7] Premiums given to ploughmen at these matches gave the labourers an incentive to improve their skill.

The number of claimants for premiums depended on the subject of premium offer. The offer of a premium did not always guarantee a response. The Society of Arts was particularly successful with its tree-plating and madder premiums which attracted a large number of entries. On the other hand, its premiums for the composition of soil were less successful because in offering these premiums, the Society was half a century ahead of its time. It was not until the lectures of Humphrey Davy in 1803 that the science of agricultural chemistry was really founded. On several other similar

[7] 'Cultor', 'Essays on premiums' *F.M.*, 7 (1806), p. 277.

1786	1806	1826
------	Apple trees for cider	Apple trees for cider
Ash	------	------
Birch	------	------
Buckwheat	Buckwheat	------
Cabbage	------	------
Carrots	------	------
------	Chicory	------
Corn	Corn	------
Destroying vermin and insects	Destroying vermin and insects	------
------	Extinction of summer fallow	------
------	------	Flax
Grasses	Grasses	------
------	------	New varieties of grain/pulse
------	Orchard plantations	Orchard plantations
------	Parsnips	------
------	Pear tree	Pear trees
Planting boggy soils	Planting boggy soils	Planting boggy soils
------	Poppies for opium	------
Preserving vegetables	Preserving vegetables	------
Rape seed	------	------
Sainfoin	------	------
Scotch cabbage	------	------
Timber trees	------	------
Turnips	Turnips	------
Turnip-rooted cabbage	Turnip-rooted cabbage	------
Weld	------	------
Wheat	Wheat	------
White thorn	White thorn	------
------	------	Willows

Table 7.3 : Selected 'Crops and plantations' premiums offered by the Bath and West, 1786-1826.
This table illustrates the changing subjects of the premiums offered by the Bath and West over a forty year period, thus demonstrating the Society's changing priorities.

Source : B.W., Rules, Orders...(1786-1826).

1786	1806	1826
Acorns	Acorns	------
Alder	------	------
Ash	Ash	------
Beans	Beans	Beans
------	Buckwheat	------
------	Cabbage	------
------	Carrots	------
Chestnuts	Chesnuts	------
------	Comparative husbandry	------
Corn	------	------
Destroying vermins and insects	Destroying vermins and insects	Destroying vermins and insects
------	Grass seeds	------
Green vegetable food	------	------
------	Hemp	------
Larch	Larch	------
Mulberry	------	------
New varieties of grain/pulse	------	------
Oaks	Oaks	------
------	------	Orchard plantations
------	------	Poppies for opium
------	Preserving vegetable seeds	Preserving vegetable seeds
------	Preserving vegetables	Preserving vegetables
Rhubarb	------	------
------	------	Straw
------	Timber trees	Timber trees
Trees exposed to weather	------	------
True rhubarb	------	------
Turnips	Turnips	------
Turnip-rooted cabbage	------	------
Wheat	Wheat	Wheat
Willows	------	------

Table 7.4 : Selected 'Crops and plantations' premiums offered by the Society of Arts, 1786-1826.
This table illustrates the changing subjects of the premiums offered by the Society of Arts over a forty year period, thus demonstrating the Society's changing priorities.
Source : *Transactions of the Society of Arts* (1786-1826).

occasions, the announcement of a premium did not produce a single candidate. In such cases, the premium was often offered for the succeeding years, but sometimes had to be withdrawn eventually with no prospective candidate at all.

Table 7.5 illustrates the tremendous success of the Society premiums for madder. Between 1755 and 1767, the Society of Arts awarded seventy-one premiums totalling £1119 5*s*. to forty-seven winners. The Society's premiums tended to attract claimants

Year	No. of Premiums	Amount
1755	1	£30
1758	4	£54
1759	3	£54
1761	1	£50
1763	17	£348 15*s*.
1764	16	£220
1765	14	£180
1767	15	£182 10*s*.
Total:	***71***	***£1119 5s.***

Table 7.5 : Number of Madder Premiums Awarded by the Society of Arts, 1755-67.
Source : R. Dossie, *Memoirs of Agriculture, Vol. 1* (1768); *Premiums Offered by the Society for the Encouragement...*(1775).

from the southern and home counties. For example, the winners of the madder premiums gave their addresses as Buckinghamshire; Surrey; Oxfordshire; Canterbury; Essex; Sussex; Norfolk; Hampshire; Somerset and Devon. This could be explained by the relative inconvenience of transport facillities during the second half of the eighteenth century and a journey all the way to London to submit a premium claim must have dissuaded individuals from outside these counties to compete. Only three out of all the winners were members of the Society. This suggests that the Society was able to attract an audience beyond its own membership circles to submit claims for its madder premiums.

The Bath and West being a provincial society attracted premium claimants from around the four western counties in which it operated. *Table 7.6* shows the number of

'innovation' premiums, awarded between 1790 and 1799. The seventy-seven premiums totalling £516 were awarded to forty-three winners. [8] Of these, twenty-seven (63%) of all winners were members of the Society. There were fifteen repeat winners, out of which twelve were members. This indicates that most of the members who won premiums tended to win in more than one year. Furthermore, the premium winning members and those who took an active part in the Society's other activities such as sitting on committees and attending meetings were one and the same. For example, John Billingsley, the Revd Mr Broughton and Dr Parry, all repeat winners were also committee members. This suggests those who competed for premiums tended to be members of the Society; that only a small number of non-members participated; and that such participation was usually 'one-offs'.

Year	No. of Premiums	Amount
1790	6	£42
1791	5	£29 8*s.*
1792	7	£42
1793	3	£31 10*s.*
1794	5	£48 6*s.*
1795	5	£42
1796	9	£58 13*s.*
1797	14	£99 8*s.*
1798	11	£54 12*s.*
1799	11	£66 3*s.*
Total	*77*	***£516***

Table 7.6 : Number of 'Innovation' Premiums Awarded by the Bath and West, 1790-99.
Source : B.W., *Rules, Orders...*(1791-1800)

Premiums also diffused knowledge by directing the attention of farmers towards new or better crops, breeds of livestock, and methods 'which otherwise might escape notice'.[9] The judges' report of the crops submitted for premiums to the East

[8] For a detailed list of the winners, see APPENDIX 6: Winners of the Bath and West Society's Agricultural Premiums, 1790-99.

[9] Cultor, 'Essay on premiums'*F.M.* 7 (1806), p. 277.

Cumberland Agricultural Society was particularly useful in pointing out the areas that required attenion in that region:

> ...we are of the opinion that the wheat crop is below an average; that the crops of barley and oats are well fed, heavy and good, and by blessing of Providence, are likely soon to be secured in the finest condition. Turnips, though later than last year, give every indication of a fine and heavy crop. Potatoes, we are sorry to observe, are suffering from severe and extensive disease; the great breadth planted and the near approach of the period of ripening, will, we trust, however, in a great measure counteract and mitigate the loss and deprivation to the producer and consumer otherwise to have been apprehended.[10]

During the first period (1750-1799), most of the winners of 'innovation' premiums were gentlemen as opposed to working farmers. The Bath and West reported in 1805 that most premiums claimed were honorary, thus indicating that it was social approbation rather than monetary rewards that provided the particular stimulus for the competitors.[11] Since gentlemen farmers did not need the money, they had a special interest in public recognition of their activities and thus opted for honorary premiums. In 1766, Mr John Searancke was awarded a cash premium of £20 by the Society of Arts for the planting of burnet. In the event, he 'relinquished' the premium in favour of a gold medal which was presented to him in the following year.[12]

Being awarded a premium by an agricultural society was a matter of great social prestige. In 1817, Benjamin Hobhouse, on receiving a gold Bedfordean medal for his services as President to the Bath and West wrote:

> I am filled with Pride...that the Society, among the Marks of its highly valued favour, [has] conferred on me by an unanimous Vote, the Bedfordean Gold

[10] 'Local Agricultural Societies' *F.M.* **39** (1853), p. 411.

[11] 'Preface', *Letters and Papers*, **10** (1805), p. v.

[12] Dossie, *Memoirs*, **1** p. 12.

> Medal...a more distinguished Pledge could not have been given...and from which with Life only will I part. Oh, how ardently so I wish that those Services had been more meritorious![13]

It was the same sense of pride and accomplishment seems to have also motivated gentlemen farmers applying for premiums. Furthermore, it was often the same handful of gentlemen farmers who won the premiums year after year. This was because most of the Society's members and supporters were gentlemen farmers. In any case, the Bath and West was not the only society who had difficulty in attracting farmers to participate. From the outset, the YAS was well-supported by landowners, but there was little enthusiasm among farmers, even though one of its fundamental concerns was the small farmer, 'who was anxious to have a reasonably speedy return on his expendutures.'[14]

In the nineteenth century, the societies encouraged the participation of smaller farmers in their activities. In 1849, a number of 'respectable and intelligent' tenant farmers responded to an invitation by the Bath and West to join the Society. Eight of these new members were placed on the Committee of Superintendence in anticipation of 'a large amount of practical benefit from this infusion of new blood.'[15] The Richmondshire Association, under the presidency of R.M. Jaques, introduced two new classes of premiums for stock of tenant farmers paying less than £500 rent per annum because 'if any men need encourgament in their vocations, the small tenant farmer is surely one of the first who should have it.'[16] His example of encouraging smaller farmers was later emulated by the Northallerton and Stockton Shows:

> Let every show have a stake formed on the principle of that Mr Jaques started at the Richmond Association in 1840, and then we shall have farmer Jones

[13] B.R.O., B.W. *Archives*, 7, p. 206.

[14] The third Earl Spencer speaking at the 'Great Dinner' at the first YAS agricultural show, Hall, *History*, p. 55.

[15] B.W., 'Report of the Committee of Superintendence', *Rules, Orders...*(1851), p. 22.

[16] M. Bell, *The Easby Abbey Breeding Stud* (1860), p. 50, quoted in Hall, thesis, p. 50.

> showing as much delight and pride in beating his neighbour Brown, as his Royal Highness Prince Albert and His Grace the Duke of Richmond, in beating all the world.[17]

During the second period of agricultural development under the influence of the societies (1830s onwards), the premium system was held in conjunction with the peripatetic agricultural shows. Rail improvements meant that the shows could be held in different towns each year and that exhibitors and competitors could transport their stock and wares to these venues. Inspired by the success of the early RAS shows, regional societies also began to move their shows from town to town within their territories. This practice was used by the YAS from the year of its foundation in 1837; the Bath and West in 1852; and the Oxford and Banbury Agricultural Society in 1856 when the committee decided for the first time not to hold their show at Oxford but to 'lay siege at Thame'; and by the Royal Cornwall Agricultural Society in the late 1850s when the Society was reorganized as a 'county migrating society'.[18] By the 1860s, migration was standard practice for the regional societies and the latest agricultural techniques and technology were brought successively to different districts.

The peripatetic principle meant that different populations of farmers were exposed to such new information each year and the gathering of farmers at these shows must have encouraged the exchange of information. The show gave farmers the opportunity to compare notes and make further progress in their work. A natural assumption would be that by holding shows in different towns each year, the societies were attracting a diversity of farmers to compete for the premiums. However, an examination of the winners of both the livestock and implement premiums of the RAS shows a high incidence of repeat winners in both the livestock and implement sections.

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[17] *Ibid.*.

[18] *B.F.M.* **24** (1853), p. 65; T.F. Plowman, *Fifity years of a Showman's Life* (1919), p. 33; *F.M.* **14** (1858), p. 54.

At the first RAS show, there were five winners in the 'Shorthorn' class of the livestock implements. Thomas Bates won four out of the five premiums. M. Paull won four out of the five premiums for the 'Devon' class and Charles Large won three out of the five 'Long-woolled sheep' premiums awarded. In the years to follow, the livestock section was dominated by a handful of men. *Table 7.7* shows that between 1839 and 1847, the RAS awarded 418 livestock premiums totalling £6,445 to 164 winners.

Winners	No. of Premiums	Amount
1. Charles Large	22	£430
2. J. Webb	17	£375
3. Mr G. Turner	18	£290
4. E. Smith	17	£185
5. Mr W.B. Nugent	12	£160
6. E. Handy	6	£150
7. Duke of Richmond	9	£140
8. S. Bennett	6	£135
T.E. Pawlett	6	£135
9. Mr T. Bates	7	£125
10. J.N. Carpenter	7	£110
Sub-total: 11	***127***	***£2,235***
% of total: 7%	***30%***	***35%***
(Total: 164	***418***	***£6,445)***

Table 7.7 : Top Ten Winners of RAS Livestock Premiums 1839-47
Source : *F.M.* (2) **16** (1847).

An examination of the prize-list reveals that eleven men (7%) won about a third of all livestock premiums (30%) in those years. When this list is expanded to include winners of four or more premiums, the percentage is even more dramatic. Thirty-three men (20%) won about 60% of all the livestock premiums in those years. The fact that this group of breeders sent their stock in for competition year after year to the various venues all over the country demonstrates that their enthusiasm for agricultural improvement is beyond doubt. Furthermore, there was the prospect of

financial gain as premium-winning stock sold for higher prices. This also provided the motivation for improvement.[19]

The implement section of the shows had a dual purpose: Firstly, the exhibition and trial of machinery demonstrated to farmers the best machines in the country under one roof, thus saving them the effort, time and expense of visiting individual makers. Secondly, it gave them the opportunity to compare design and performance while also spurring on the manufacturers to improve their products by providing the incentive of competition. The 'spirited competition between the principal implement makers...acts as a powerful stimulus to ingenuity and invention.'[20] However, as in the livestock section, there was also a tendency for the specialist implement-making firms to win most of the implement premiums awarded by the RAS. [See *table 7.8*]

Year	No. of Wins	Amount
1. Richard Garrett & Son	22	£188/5 silver medals
2. Richard Hornsby	20	£180/5 silver medals
3. John Howard & Son	9	£77
4. J.R. & A. Ransome(s & May)	10	£50/5 silver medals
5. William Crosskill	6	£45/2 silver medals
6. William Busby	7	£30/3 silver medals
7. Earl Ducie	5	£28/2 silver medals
8. James Smyth	4	£25/1 silver medal
9. Sanders, Williams & Taylor	5	£25
James W. Newberry	2	£25
William Williams	5	£25
10. John Read	2	£20
J.W. Sharman & W.P. Stanley	2	£20
Smith & Co.	2	£20
Total: 14	***101***	***£758/ 23 silver medals***
% of total: 26.4%	*65.2%*	*76.5%/67.6%*

Table 7.8 : Top Ten Winners of the RAS Cultivation and Tillage Implement Premiums, 1841-50.
Source : *J.R.A.S.E.* **2-11** (1841-50).

[19] For a detailed list of the winners of the RAS livestock premiums, see APPENDIX 10.

[20] H.S. Thompson, 'Report on the Exhibition and Trial of Implements at the York Meeting of 1848' *J.R.A.S.E.* 9 (1848), pp. 377-422.

Between 1841 and 1850, the RAS awarded 155 implement premiums totalling £991 to fifty-three winners. Of these, fourteen winners won nearly three-quarters of the premiums and together, they constituted the leading implement-manufacturers of the day.

Such a pattern of participation where there is a high incidence of repeat winners and a tendency for the premiums to be dominated by a few individuals was also prevalent in the other agricultural societies throughout the country. In 1816, Benjamin Newton, Rector of Wath, near Ripon, was a member of the societies at Bedale and Ripon and frequently attended the meetings of both.[21] At these meetings, premiums were announced and Mr Wyvill obtained the premium for the yearling bull, Mr R. Booth for the best aged bull and Col. Dalton won with the best sow. The names of these winners recur frequently in the premium-lists of other societies in that region and many further afield. For example, Booth was also a frequent winner of the RAS livestock premiums. It was at the Ripon Agricultural Meeting Dinner on 2 October 1817 that Newton made up his mind to cease membership for that very reason.In his diary, he noted that every person won premiums at the first meeeting continued to do so at each succeeding one. He gave the names - Booth, Wright, Brown, Rodd - and thought that the premiums had had no effect whatever in inducing new candidates to participate.[22]

Macdonald has found that premiums of both the Tyneside and Tweedside agricultural societies were also generally won by the same few individuals. His findings are reproduced in *table 7.9*. In the sheep category, one winner took twelve premiums (26%) and four winners took twenty-five premiums (53%). In the cattle category, seven winners won sixty-five premiums (60%) and in the implements section, two winners won eight premiums (50%). This has led Macdonald to conclude that

[21] C.P. Fendall and E.A. Crutchley (Ed.s), *The Diary of Benjamin Newton, Rector of Wath, 1817-18* (1933), p. 34.

[22] *Ibid.*, p. 103.

Tyneside Agricultural Society	Section	Premiums	Winners
1805-19	Turnips	23	15
1805-21	Sheep	47	21
1805-21	Cattle	109	29
Tweeside Agricultural Society			
1812019	Implements	16	-

Table 7.9 : Distribution of Premiums awarded by the Tyneside and Tweedside Agricultural Soceities.
Source : S. Macdonald, 'The Diffusion of Knowledge among Northumberland Farmers, 1780-1815' *Agric. Hist. Rev.* **27** (1979).

premiums 'were hardly likely to encourage that spirit of healthy competition it was said was their function.'[23] However, the premiums awarded by the societies were twofold in their aims: the stimulation of innovation (by competition) and the diffusion of information (by publication and exhibition). Even as early as 1773, Weston wrote that the premium system awarded by the Society of Arts 'daily adds new life to agriculture' and had 'already begun to stir up a spirit of *emulation* in this Kingdom'.[24] So even if premiums tended to be won by the same individuals, farmers visiting the agricultural shows and viewing the winning breed or implement might have been encouraged to try them for themselves. One could say that the paramount importance of such exhibitions was that 'those who come to stare remain to buy'.[25] The great advantage of the shows was their 'power of imparting a vivid impression':

> Landlords, occupiers, and even labourers had their minds and faculties opened, improved, and stimulated by visiting a show-yard, where the best specimens of animals and the most modern implements and machines were brought prominently and forcibly to their notice.[26]

[23] 'Diffusion of knowledge', p. 33.

[24] Weston, *Tracts on practical agriculture*, p. 3. Emphasis added.

[25] Sidney, *Effect of prizes*, p. 375.

[26] 'Agricultural shows' *F.M.* (3) **29** (1866), p. 375.

Premium-winning stock and implements had an impact on farmers visiting the shows. For example, one exhibitor at York (1848) received sixty orders for one of his premium-winning implements during the week.[27] Many farmers were also encouraged to purchase descendants of premium-winning stock in the hope of putting their own herds and flocks into the same favoured class. The stock section of the show was useful for popularizing leading herds and establishing a line in the public eye. The implement section was a valuable means of bringing implement makers and farmers in contact and a useful vehicle for the dissemination of innovations. J. Fairfax-Blakeborough wrote that the aim of the premium system was not merely to reward individuals but to provide valuable lessons to the multitude of farmers and the show was not a holiday 'but to collect in ordered assembly all that is best in agriculture for the education, stimulation and encouragement of agriculturists of all degrees.'[28]

To confront farmers with improved breeds of stock and to present them with the spectacle of new machinery in action was to provide them with living proof that progress was possible. In spite of the controversies surrounding both the stock and implement sections of the show, both the show attendances and the number of entries submitted for exhibition continued to rise. [See *figure 7.2* and *figure 7.3*] Premiums and agricultural shows were therefore of considerable importance in the progress of agriculture during the nineteenth century.

The significance of the premium system was that it used the competitve element to encourage improvement through education and example. In the case of premiums for agricultural implements, premiums were offered for the invention of a new implement or the improvement of an existing one. Before the development of the specialist implement making firms in the nineteenth century, implements were usually made by the local blacksmith, wheelwright, or carpenter to the farmer's specifications. The design usually replicated that traditional to the region or it might incorporate some new feature of the farmer's or craftsman's own invention. Innovation would normally begin and end there. However, with the existence of the premium system, the

[27] *Ibid.*.

[28] 'Centenary of the YAS' *T.Y.A.S.* **34** (1937), pp. 10-12.

innovating farmer might be persuaded to share his new ideas for a reward. At the same time, the other farmers might also be persuaded to follow the pioneer's lead. The premium-winning farmer was important as a role-model in their neighbourhood:

> When Smith sees what Browne who is only a tenant farmer like himself can do, he begins to consider if he, too should not do a little more. By next year, he will have a ram to show, a prize heifer to sell, or a speech to make, as a successful exhibitor, at the annual dinner.[29]

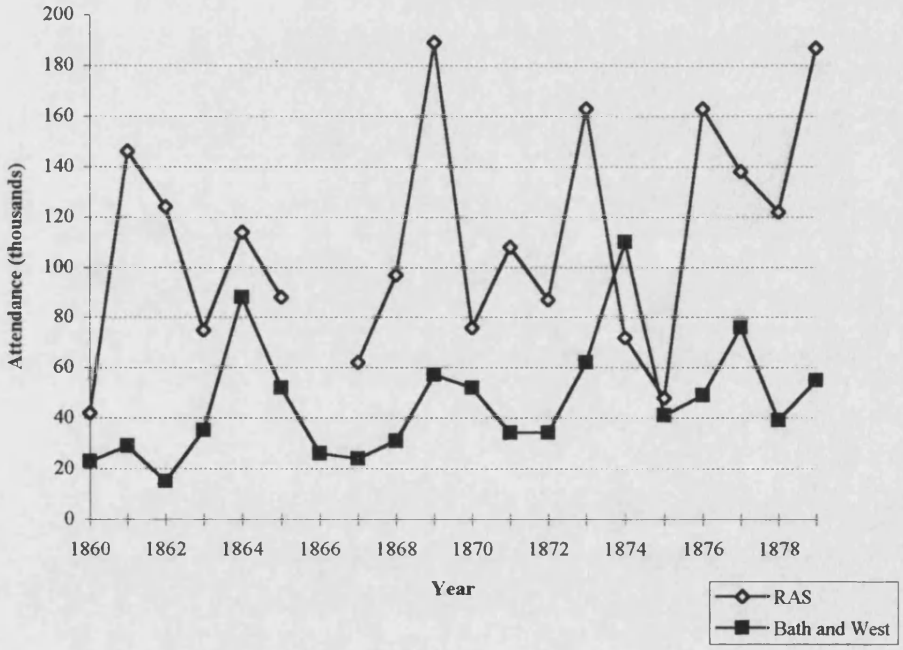

Figure 7.2 : Attendance at the RAS and Bath and West Shows, 1860-78.
There was no RAS show in 1866 because of the cattle plague. The Bath and West had a show in Salisbury with a much reduced livestock section. The 'cattle' class was omitted but the'horse' and 'dog' classes were introduced.

Source : N.P.W. Goddard, *Harvests of Change: The Royal Agricultural Society of England, 1838-1988* (1988); K. Hudson, *The Bath and West: A Bicentenary History* (1976)

[29] *M.L.E.*, 20 September 1858.

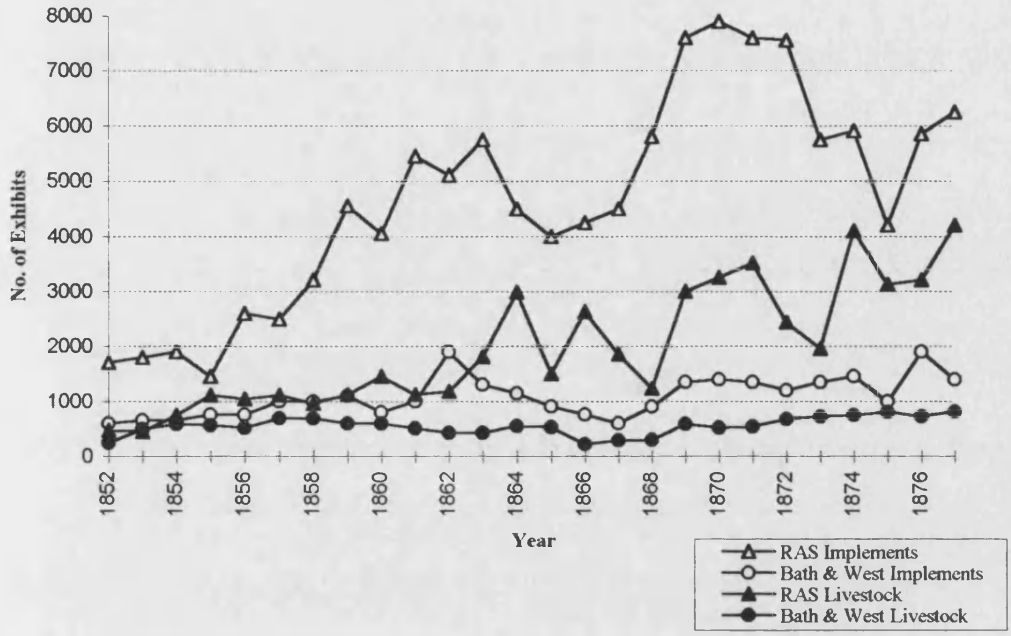

Figure 7.3 : Number of Exhibits at the RAS and Bath and West Shows, 1852-77.
Source : RAS Annual Show Reports (1852-77); B.W. Show Catalogues (1852-77).

There is evidence that a progressive local farmer was important in encouraging imitation. For example, when the RAS asked Mr Crosskill to obtain a report from farmers who had purchased his premium-winning clod-crusher, it was evident from the replies given that farmers were recommending its use to their neighbours, or were aware that their neighbours were using it and at times, even borrowing it from them. [See *table 7.10*] In this same way, when the records show that Farmer Smith won a £5 premium for his crop of drilled carrots, an assumption may be made that the farmer bringing his premium home must have had some effect on his neighbours.

The premium system also directed agricultural research and improvement. Premiums were offered for the best answers to important agricultural problems such as cures to plant or livestock diseases or selective breeding for early maturity. It encouraged 'a preserverance to encounter dificulties, which, without such a spur, might not be surmounted'. In the same way, premiums 'rouse a spirit of emulation to excel':

> Who can tell what effect handsome premiums might have (when a sense of honour and the spirit of gambling are made to cooperate with the ordinary sense of interest) in stirring up the emulation of intelligent and enterprizing farmers to cleanse, deepen, and enrich every inch of their arable soil, till it shall resemble a garden?[30]

Furthermore, premiums promoted the idea of healthy competition:

> To the prospect of gain is added the desire of pre-eminence; a motive of no small influence upon ingenuous minds: For I may venture to affirm, that most of the competitors for the prizes issued by the...societies, were more keenly agitated, and more highly gratified by the pride of victory, than by the value of the medals or sums of money which they received.[31]

Inherent in the premium system was the free exchange of both new and existing agricultural information. Premiums for essays were particularly useful in acquiring agricultural knowledge from around the country and circulating it among members. The prize essay system originated from the mid-eighteenth century when the Society of Arts awarded premiums for essays. The Board of Agriculture under the Presidency of the irascible John Sinclair devoted a large proportion of its time to rewarding and publishing essays, much to the chagrin of some of the other members. This system is also well-known through the pages of the RAS *Journal* where the Society's premium-winning essays were regularly printed. Most typically, a subject considered worthy of further investigation was selected and a premium would be offered for an essay based on both practical experience and reading. The best essay would be awarded a premium and printed in the society's transactions or in pamphlet form for circulation among members.

[30] 'Cultor', 'Essay on premiums', p. 280.

[31] *Ibid.*, p. 279.

John Drabwell, Thurcroft Hall, by Rotherham	I may say here that *my neighbour, Mr Hall, of Riveton Park, broke up some grass-land this spring, and sowed oats using the clod-crusher.* I did likewise, but did not use the clod-crusher. Mr Hall is reaping 3 to 4 quarters per acre more than me, and I have no doubt that your patent clod-crusher has made all the difference.
William Stickney, Ridgmount, Holderness	A neighbour of mine had sown a large field with oats, very dry and cloddy. The harrows had but little effect in covering the seed, but were borne up by the clods, which were only rolled from one place to another, the land being very dry on the surface. Both my neighbour and I thought there was little prospect of a crop. *I lent him my clod-crusher,* and he rolled it. The points of the roller pressed a large portion of the seed in contact with the little moisture left in the land. The soil from the crushed clods covered the seed, and it soon vegetated, and produced a good crop, much beyond our expectation.
William Hutton, Gate Burton by Gainsborough	*I borrowed one of your cold-crushers of my neighbour*, the Rev. F. Peel, of Willingham, to roll my new-sown wheat with on my light soil, and am so far satisfied with the appearance of the wheat now that I desire you to send me one by the 25th September.
William Dos, Gosberton, near Boston	As far as I have used it I consider it a most valuable implement; and *shall not fail to recommend it to my neighbours*.
Henry Wood, Cropston, near Mountsorrel, Leicestershire	I have great pleasure in conveying to you my experience of the clod-crusher, which I was induced to order of you last year, *after the loan of my neighbour's*, Henry Paget, Esq., of Bristol...My clod-crusher has been in such request that I have little doubt but most of our parishes will be induced to have one in common.
Thos. Flight, Laycock's Dairy, Islington, Middlesex	I am happy to say that I have used your cold-crusher in the Isle of Sheppey with great satisfaction, and have *recommended it to my brother-farmers* on the island, who, I have no doubt, will patronize it also, as they were equally pleased with it.

Table 7.10 : Opinions on the Effects of Crosskill's Clod-Crusher
Source : *J.R.A.S.E.* 4 (1843) 560-81. Emphasis added.

However, it must be mentioned the prize essay system had its own limitations. Many of the essays submitted were derived from the writer's own experience and observation. These were often based on a restricted outlook with little knowledge of the broad compass of the subject which they were covering. Goddard had found that the RAS had difficulty in obtaining essays of sufficient merit to award premiums, and even unsuccessful essays were sometimes published.[32] By the 1860s, the prize essay system was seen by many to be anachronistic and H.S. Thompson admitted that submissions were often badly written or 'mere twaddle'. [33] The RAS found that a more appropriate method of obtaining sound material was to commission acknowledged experts in their research fields to write on defined topics and increasingly relied on this methods to solicit information. Premiums for essays were gradually phased out in the 1860s and 1870s. Nonetheless, in the early days, especially in the eighteenth and early nineteenth century, premiums for essays succeeded in transforming the expertise and knowledge of individuals living locally into information freely available to members of agricultural societies.[34]

The success of the premium system was also severely limited by other factors. These will be discussed in the last section of this chapter when the obstacles to success will be considered. For the moment, factors such as class divisions and the resistance of ordinary working farmers restricted the exchange and diffusion of information. The next section will evaluate the role played by the societies in the circulation of information and the education of the agricultural community.

7.2 CONTRIBUTION OF THE AGRICULTURAL SOCIETIES

In 1855, Thomas Plowman, secretary of the Bath and West, stated that without the activities of the agricultural societies, English agriculture would have been 'many years behind its present position'.[35] Plowman was echoing the words of his father,

[32] *Harvests*, p.82.

[33] *F.M.* (3) **35** (1869), p. 54.

[34] For the century after 1750, many learned societies used the prize essay method as a standard and uncontroversial mode of eliciting information.

[35] Plowman, 'Agricultural societies and their uses', p. 188.

Joseph, secretary of both the Oxford Farmers' Club and the Oxfordshire Agricultural Society. In his prize-winning essay on agricultural societies, Joseph Plowman expressed his belief that the societies had diffused agricultural knowledge, stimulated the advancement of agricultural chemistry, encouraged the perfection of livestock breeds, and contributed towards the development of farm machinery.[36] The words of the Plowmans are typical of the contemporary enthusiasm that the activities of the agricultural societies aroused.

The aim of the agricultural societies was as much to improve the state of agricultural practice in the country as it was to persuade landlords and farmers alike to take an interest in progressive farming. When the early societies were set up, the majority of the estates were cultivated conventionally and landowners tended to be more interested in securing efficient tenants than in experimenting with innovative techniques. It was understandable that leading agricultural writers constantly complained of the indifference of the large landowners to the new husbandry. This is where the agricultural societies stepped in and tried to rouse their interest in the possibility of combining efficient tenants with both profit and increased rent. The agricultural soceties believed that they provided the best chance of making the advanced farming practice known to the entire agricultural community, from the great landowner down to the agricultural labourer.

The societies were voluntary organizations dependent on the effort, commitment and financial support of their members. However, membership was not without its privileges. To an extent, the societies possessed some characteristics of economic 'clubs' as some benefits were available to members only. For example, only members could use the library, send goods to the wool market, or have soil analyzed in the laboratory. These benefits may have made membership economically attractive to

[36] Plowman, 'Prize essay', pp. 378-84. For the Plowmans, see T.F. Plowman, *Fifty years in a showman's life* (1919); *idem.*, *In the Days of Victoria: Some Memories of Men and Things* (1918); 'In Memoriam: Thomas Forder Plowman' *J.B.W.E.S.* (4) **14** (1919-20), pp. 1-7.

some farmers.[37] However, in attracting gentlemen and farmers to join, the societies tended to play down the economic benefits and put appeals in terms of promoting the public good:

> To gentlemen of fortune, and even to persons who are in circumstances only tolerably easy, an annual subscription of one guinea cannot be an object worth a moment's consideration: And when the public benefits resulting from the useful application of their money are remembered, every thing that can influence a liberal mind, will operate in its favour. Among Farmers in particular, every one who is not blind to his own interest, or unreasonably prejudiced in favour of ancient modes of husbandry, must see the advantage they might derive from encouraging improvements which are particularly calculated for their own benefits, by increasing their knowledge, and rewarding their diligence.[38]

It is interesting to note that the societies often used broad-based appeals to help establish membership as a legitimate, patriotic way of promoting the public good. Gentlemen who joined were 'peculiarly entitled to the thanks of their country' because they were 'increasing the wealth and happiness of the community'[39] Members were constantly reminded that they worked not for private gain but for the public good:

> A great number of gentlemen of rank, fortune, and ingenuity...have generously contributed to support an institution in which subscribers can have no private interest, but which is evidently calculated to promote the general and public good.[40]

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[37] In the 1880s, an annual one-guinea subscription to the Bath and West also included free admission to the Annual Exhibition, and also to the Grand Stand, overlooking the Horse and Cattle Ring, to reserved seats in the Working Dairy, and to the use of the Members' Special Pavilion for reading and writing.

[38] B.W., *Rules, Orders...*(1783), pp. 11-12.

[39] 'Introduction', *Letters and Papers* **2** (1783), pp. xi-xii.

[40] B.W., *Rules and Orders...*(1777), p. vi.

In a speech before the 1788 annual meeting, Edmund Rack, the founder and first secretary of the Bath and West, made an appeal to all farmers to join the patriotic ranks of agricultural improvement:

> Every individual who wishes the prosperity and happiness of this country, reveres your [the members] spirited exertions to promote these valuable purposes. And I flatter myself that the intelligent and liberal-minded, who are not at present its patrons, will be induced from the same motives of public spirit, to give it the sanction of their approbation, not only in praises which cost nothing, but in contributing to its support and enlargement.[41]

The membership lists show that social rewards for joining such organizations were particularly strong. Aristocrats and officers were often listed prominently at the beginning of premium lists in bold lettering.[42] The other members were listed next in alphabetical order. The prestige of appearing on the list with so many other distinguished names was experienced by the Revd Dumares of Yeovilton who wrote to the Bath and West in 1778 that, 'I shall think it an honour to be inserted in the List of so many worthy Subscribers.'[43]

The constitution of these societies, with the exception of the Board of Agriculture which received financial aid from the government, was that of the 'voluntary subscriber democracy':

> In constitution, they are simply clubs or associations of men united together under self-imposed riles, with properly qualified officers on their effective administration; and their object is to seek certain definite results, as a

[41] E. Rack, 'An Essay on the Origin and Progress of Agriculture in different Ages and Nations' *Letters and Papers* **2** (1788), p. 344.

[42] The role of aristocrats beyond appearing on membership lists is hard to determine. Some, like the Duke of Bedford, played active roles, but many were very content to give monetary contributions and the prestige that their titles conferred on the Society.

[43] B.W., *Archives*, **1**, p. 19.

collective body, which could not be obtained individually. The first-named officers on their rolls are patrons or presidents, and the duties of these officers are generally assumed, as is most proper, by landed proprietors of the district, and although merely honorary, it is desirable to have the names and countenance of such gentlemen...Next in order in the constitution of agricultural societies is the committee, upon whom the success of the association mainly depends.They should be men of superior intelligence in their profession, independent in spirit and thought, but considerate in feeling of the views and opinions of others, impartial in action, of unsuspected reputation, and active in efforts to promote the welfare of the society. The offices of treasurer and secretary are now generally held by the same person, and where auditors are appointed there can be no possible objection to this, while it gives a unity and simplicity of action which is not always obtainable in divided responsibilities; but it is essential that the individual accepting these offices should have all the properties previously named as requisites for the committee, and also be a man of business habits and tact. He is expected also to be strict in adherence to defined rule, courteous and considerate to every member and severely impartial in all his proceedings. He should also be largely possessed of self-reliance and self-control, for occasions will occur that render both necessary; not so thick-skinned as to be insensible to reproof, nor so thin-skinned as to take offence at every hasty expression or seeming opposition, but also able to govern his own spirit, and in some measure the spirit of others also - and the latter quality is desirable in every member of the society. [44]

As a result, there was generally a high percentage of landowners and professional men but only a few tenant farmers in the membership of the societies[45]:

[44] 'Local Agricultural Societies', *F.M.* (3) **29** (1866), p. 209.

[45] For example, of the 101 original members of the Tweedside Agricultural Society, only 22 were described as tenants or farmers, Macdonald, thesis, p. 490.

> Our cousins across the Atlantic may smile at what they term our weakness in this matter, and our politicians of the Republican school may display some truthful sarcasm in the saying that 'England loves a lord' but there is a deep-seated respect for the aristocracy of this country generally prevelant in the lower and middle classes, which I am so conservative as to think, conduces very materially to the good order and welfare of the kingdom.[46]

However, such a 'genteel' composition also led many contemporary farmers to perceive the societies as 'gentlemen clubs' not entirely in tune with the principles of practical farming. As a consequence the societies were criticized as being dominated by too many 'dilettante' farmers and not enough 'practical men'. For example, the RAS has been referred to as 'a comfortable club of fashionable amateurs'[47]:

> ...an agreeable club, the members of which could meet together for a *conversazione* and amuse themselves as a body of amateurs: it had ceased to represent the agricultural community at large. It reminded him [Samuel Sidney] of All Souls College where the qualification was 'to be well-born, well-dressed, and with a little knowledge of music'.[48]

Sidney calculated that at this time, there were only thirteen members of the Society who were 'practical farmers'. As early as 1780, it was noted that the general establishment of agricultural societies required some improvement and it was observed in the *Annals of Agriculture* that societies 'seldom answered the sanguine expectation of those by whom they were suggested.'[49] Furthermore, it was argued that the societies existed mainly to serve the needs of the ruling class.

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[46] 'Local Agricultural Societies', *F.M.* (3) **29** (1866), p. 209.

[47] *M.L.E.*, 28 February 1859, 28 May 1860.

[48] Sidney at RAS General Meeting, 15 July 1859, reported in *F.M.* (3) **16** (1859), pp. 145-6.

[49] *Strictures upon Agricultural Societies with a Proposal for One on a New Plan* (1780), p. 23; *Ann. Agric.*, **31** (1798), pp. 1-3.

The membership of the societies most typically consisted of members of the landed gentry, Members of Parliament, major industrialists, clergymen and members of the legal and medical professions. Multiply this by the number of societies in the country and the societies taken as a whole constituted the men who controlled the country. The societies were microcosms of the English ruling class and it would be reasonable to assume that nothing the societies did would be likely to run counter to their interests. These interests loosely defined would include a high general level of prosperity; good prices and profits for agricultural produce; satisfactory rents and an obedient docile working class. The first three of these could be achieved through promoting the most productive methods of husbandry and were dependant on the fourth to carry it out in the most efficient manner.

Both contemporary and modern-day commentarors have remarked on the paternalistic attitude of the earlier and larger societies. In most of the agricultural socities, a proportion of the funds were set aside as premiums for deserving labourers and servants. On the one hand, it was claimed that premiums for good ploughing; for sheep-shearing; for hedging and ditching; for draining and other agricultural operations; for raising the greatest number of children without resorting to the parish; and for servants who have been with their master longest; had the 'comfort and happinness of the labourer himself' as 'the primary object'.[50] On the other hand, such premiums could be seen a way in which the landowners preserved an obedient and docile working class. After all, a contented labour force ensured the highest rates of productivity and maintained the *status quo* in a time when the memory of the French Revolution was still fresh and the threat of a social revolution was to be avoided at all costs. The master-servant relationship was one of power and subjection and implied in such premiums for the labouring classes was the element of social control. The *Mark Lane Express* was especially critical of what it termed the 'Tickle-me-Toby and I'll tickle you' system of the societies in which 'noble lords occupied valuable time

[50] 'The English Agricultural Society and the Agricultural Labourer' *F.M.* (2) **1** (1840), p. 258.

lauding each other'.[51] The agricultural societies 'with their pompous premiums, bounties and encouragements' were 'mere gee-gaws'.[52]

To an extent, there was a genuine concern for the welfare of the poor and the comfort of the cottager. One of William Shipley's earliest schemes was to raise a voluntary subscription fund to buy a stock of fuel at summer prices and sell it to the poor in winter without profit in Northampton.[53] In 1795, in an article on rural poverty in Wiltshire published in *Letters and Papers*, Thomas Davis suggested that each parish ought to keep a few acres of furze unploughed so that 'this might be sold for fuel, to those who could afford to buy, and given, instead of parish relief, to those who could not.'[54]

While the desire to help the poor and the desire to encourage agricultural improvement may appear at first to be two very separate causes, they were actually intimately connected. Both originated from the paternalistic code that the enlightened elite had a duty to the lower orders of society. The ownership of land carried with it a duty to the lower classes of society and because these societies were often associations of landowners, it was a matter of agricultural *noblesse oblige* that they awarded premiums to the poor. The landlords were 'the primary means of increasing the wealth and happiness of the community, who feel, through every rank and order, the beneficial effects of every improvement that ends to increase the value and produce of our lands.'[55] In this sense, the societies were working towards the

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[51] Goddard, 'Agricultural societies', p. 253. The *Mark Lane Express* was willing to concede that there was a more practical element coming into the proceedings of the societies in the 1840s. *M.L.E.*, 21 October 1839; 15 September 1845.

[52] H. Holland, *General View of Agriculture in Cheshire* (1808), p. 340; W. Stevenson, *General View of Agriculture in Dorset* (1815), p. 465; 'Agricola', *Letters on the rules and regulations of Agricultural Societies* (1842); Correspondent to *Agric. Mag.* (3) **2** (1808), p. 128.

[53] For full account of Shipley's fuel scheme, see TWO (2.1).

[54] B.W., *Letters and Papers*, 7 (1795).

[55] 'Introduction', *Letters and Papers*, **2** (1783), pp. xi-xii. Thirsk has observed, 'A sense of obligation to one's fellow men to strengthen the economy, promote the commonweal, and provide work for the poor was part of an accepted philosophy, inspired by religous and political conviction.'

alleviation of rural poverty and premiums for the improvement of cottages and the annexation of small pieces of land for orchards and gardens for workers could also be included in this category. William Matthews, Secretary of the Bath and West pointed out that a progressive house-building policy would ensure that:

> ...the old country cottages and miserable huts, in which indolence, dejection, disease and indelicacy [were rampant]...will gradually become improved and re-built; and the allotment of land for useful garden purposes will become increased, to the improvment of the inhabitants in the essential articles of industry, health, decency, order and contentment! The country would thus by degrees, and perhaps not by slow ones neither, acquire a new face of *civilization*, respectability, and ornament.[56]

Nonetheless, beyond the humanitarian reasons was the belief that an ill-housed, underfed, insecure worker was an inefficient element in the economic machine. Thus, the societies were formed to encourage agricultural improvement and productivity to increase output and thus, profits. If agricultural labourers were given the opportunity to live decently, afford the necessities of life, and to take pride in their homes, their work would benefit:

> ...whether the business to be done be the cleaning of a stable, a pen, or a fold for cattle; of a farm-yard, a pond in the field, the making or mending of a ditch, the planting or plashing of a hedge, the grubbing up of weeds or brambles, the mending of a road, or whatever else in these common offices of the labourer; any or all of them will be done the better, by how much the labourer has been accustomed to value conveniencies, and the appearance of neatness in and about his own dwelling.[57]

'Agricultural Innovations and their Diffusion' in J. Thirsk (ed.), *The Agrarian History of England and Wales, Vol. 5, 1640-1750, Part 2: Agrarian Change* (Cambridge:1985), p. 539.

[56] W. Matthews, 'Introduction' B.W. *Letters and* Papers, **8** (1796), p xxiv.

[57] *Ibid.*.

One must recognize that the motives behind agricultural improvement were never entirely altruistic. To assume otherwise would simply be naive.[58] Furthermore, the societies could only function within the boundaries of their social context. Even though the members were post-Enlightenment thinkers, they were still constrained by their social preconditioning as landowners. Thus, their activities would have been defined by their perceptions.[59] Just as their programme of agricultural improvement combined the display of patriotism with the prospect of increasing profits, helping the deserving poor meant that 'society at large must be thereby benefitted, and the social character of a large mass of the people improved'[60] The activities of the societies have to be taken in their entirety. Focussing on their bourgeois activities only serves to obscure the significance of their activities which aimed to diffuse useful agricultural information.

It is true that the majority of the founders and members of the agricultural societies were often 'men of intellectual culture, rather than practical farmers'. [61] This has led the Society of Arts historian, H.T. Wood to remark that 'To us, nowadays, the whole scheme seems impracticable, and at the best, utopian, but at the time it was perfectly reasonable.'[62] Contemporaries generally believed that 'rapid improvements in agriculture, begun at first by the gentlemen, [would be] followed up with great spirit by the tenants.'[63] It was the 'duty of every landlord to make agricultural experiments; and then the tenant-farmers, when these had been thoroughly tested, would be in a position to know whether they should adopt or reject them.'[64] Thus, it appeared possible to them that a group of gentlemen would be able to ascertain the pressing

[58] Even Coke made a handsome profit from the sale of livestock at his Clippings.

[59] It should also be pointed out that such premiums only ever constituted a part of the total premiums offered by a society. For example, between 1786 and 1826, the Society of Arts only offered two premiums for 'Improving the Condition of the Poor', in 1798 and 1802. Certain societies, such as those in the north of England, did not even have this practice.

[60] 'The English Agricultural Society' *F.M.* (2) **1** (1840), p. 258.

[61] Murch, 'History and literature', p. 146.

[62] *History*, p. 19.

[63] J. Sinclair, *Old Statistical Account of Scotland, Vol. 4*, (1797), p. 379.

[64] 'Autum Meetings of Agricultural Societies' *F.M.* **39** (1853), p.392.

needs of the farming community; to foresee the course which agricultural development would take; to select the improvements which could be most usefully encouraged; and generally to direct the development of agriculture by the judicious distribution of medal and money premiums.

Another agency that could have taken the lead in such affairs was the state. However, during the eighteenth century, there was increasing scope for individual initiatives after the curtailment of the powers of the monarchy at the end of the previous century. The creation of these improving societies was an indication of this increasing spontaneity and such organizations were established as an alternative to the state. Furthermore, the principles of *laissez-faire* were becoming increasingly dominant from the late eighteenth century onwards: the free play of capital and the abandonment of national commercial regulation were ideals hailed with enthusiasm by many individuals. From as early as 1797, Sir John Sinclair wrote of 'mankind united together by mutual interest, and bound by ties of commercial intercourse to promote the general happiness of the species.' In the nineteenth century, any form of state intervention was increasingly abhorred and by the 1840s, many were hostile to any extension in the powers of the state. A good example of resistance against state control was the agitation that arose as a result of the protectionist Corn Law and the Anti-Corn Law League that was formed as a consequence.[65] Perhaps it was an exaggeration when Earl Stanhope declared in 1843 that the RAS represented the 'final and fatal triumph of free trade' but nonetheless, the founding of the Society was associated with the growth of free trade opinion among agriculturists.[66]

This tradition appears to have lasted throughout the nineteenth century as Plowman writes in 1885:

> So little interest does the State manifest in Agricultural Societies in this kingdom that it has never made an attempt even to procure a list of them,

[65] W. Cunningham, *The Growth of English Industry and Commerce in Modern Times: Laissez Faire* (Cambridge: 1917), pp. 867-8.

[66] Goddard, *Harvests*, p. 16.

> much less to ascertain what they are doing....if it were not for the agricultural press, whose space is necessarily limited, little or nothing would be known by the country generally of what societies are doing, except in the case of the few which issue journals of their proceedings.[67]

Schemes for improvement, agricultural included, thus originated from voluntary private initiatives and 'achieved results which have secured the admiration of the world at large.'[68] Against the backdrop of eighteenth and nineteenth century England, experiment and innovation could not be carried through or even begun without the interest and support of the wealthy landowners. Premiums could only be financed by private institutions and the landowners constituted one of the few groups in society that had the means to finance such a scheme of improvement.

It is recognized that such a model of innovation, where ideas originated and were diffused from the top of the social ladder downwards, might present ordinary farmers as socially inept creatures, devoid of any ability to innovate if left to their own devices. Indeed there were contemporaries who held such views and were quite ready to set it on paper:

> Agriculture is very far from being arrived at an equal perfection, with many other arts and sciences, though it has been practiced from the earliest period of time. This arises chiefly from its being confined to persons in a very low class of life, whose poverty and ignorance disable them from making proper experiments; whereas no one science has more occasion for the lights and assistance of philosophy, till it be cherished and countenanced by men of opulence and learning, we cannot hope to see it advance towards perfection, with the same rapidity observable in other arts.[69]

[67] 'Agricultural societies and their uses', pp. 186-7.

[68] *Ibid.*, p. 188.

[69] Weston, *Tracts on practical agriculture*, p. 1.

This was not always the case and there are several recorded instances of innovative farmers.[70] However, the diffusion of their innovation was usually limited to the immediate vicinity of the farmers' neighbourhoods. The emphasis that has been placed on gentlemen farmers as innovators explains itself when the financial risks of novelties are considered. Agricultural experiments were hazardous ventures that smaller farmers could not contemplate. Even to procure publicity for a novel idea required money, time and patience which working farmers could not spare from the daily routine of eking a living from the land. The gentry formed themselves into improving societies to spread the risks of innovation.

The logic of development was fairly straightforward: The agricultural societies were most typically established by gentlemen farmers who had both the time and resources for such enterprises. Premiums were used as incentives for innovating farmers to share their ideas. The societies then diffused the new technique or implement to their members in the hope that farmers would be encouraged to adopt them. The societies were thus important channels for the acquisition and diffusion of knowledge and their collective efforts reached wide audiences across the country.

At a very basic level, the popularity of these societies is evident from the number that were formed during the period under study. In 1810, there were forty-eight societies in England and Wales and in 1835, this figure was ninety-five. By 1900, this figure had more than tripled to 340.[71] *Figure 7.4* illustrates the profusion of agricultural societies in 1835. While it was an exaggeration for a writer in 1871 to claim that 'every locality has its ploughing match and club, every market town its monthly meeting for discussion, every county its annual show, every province its great summer meeting', there were so many societies formed in some parts of England that those who intended to establish new societies were warned that the area they covered

[70] See for example, Macdonald, 'George Culley'.

[71] All years are approximate and the figures do not include Scottish or Irish societies. B.W., *Letters and Papers* (1810).

1. Arundel
2. Ashby de la Zouch
3. Banbury
4. Barton-upon-Humber
5. Bath and West of England
6. Bedford
7. Beverley
8. Boroughbridge
9. Boston
10. Bridlington
11. Brigg
12. Bristol
13. Bruton
14. Bucks Royal
15. Burlington
16. Cambridgeshire and Ely
17. Chelmsford
18. Chippenham
19. Cirencester
20. Colchester
21. Cornwall
22. Derbyshire
23. Devon
24. Doncaster
25. Dorset
26. Driffield
27. Epping
28. Frome
29. Glamorganshire
30. Gloucestershire
31. Goole
32. Grantham
33. Harleston
34. Hedon
35. Hereford
36. Hinksford
37. Holderness
38. Horncastle
39. Howden
40. Ipswich
41. Isle of Sheppey
42. Kent, East
43. Kent, Mid
44. Kent, West
45. Kesteven
46. Lancaster
47. Leicestershire
48. Lewes
49. Lincolnshire and Lindsey
50. Liverpool
51. Louth
52. Malling
53. Malton
54. Manchester
55. Market Harborough
56. Market Rasen
57. Netherby
58. Newbury
59. Norfolk
60. Northamptonshire
61. Pembroke
62. Pembroke Farmers' Club
63. Pocklington
64. Preston
65. Richmond
66. Romford
67. Rutlandshire
68. Rye
69. Saffron Walden
70. Scarborough
71. Selby
72. Sevenoaks
73. Sherburne
74. Shropshire
75. Spilsby
76. Suffolk, East
77. Suffolk, South
78. Surrey
79. Tankerville Annual Show
80. Taunton and West Somerset
81. Tendring Hundred
82. Thirsk
83. Thorn
84. Waltham
85. Wetherby
86. Whittingham
87. Whittington
88. Wincanton
89. Yeovil
90. York, Central
91. York, East Riding

B. Brecknockshire Soicety
L. Central Chamber of Agriculture
London Farmers' Club
Royal Agricultural Society
Smithfield Club

Figure 7.4 : Agricultural Societies in England and Wales, 1835

should be far enough apart so that 'they do not trench upon each other's ground to any large extent.'[72]

It is worth noting that the societies did not receive universal approbation from all concerned in the promotion and improvement of agriculture. George Culley, an improving farmer in Northumberland, remained highly sceptical of the societies. Writing in the *General View of Agriculture of Northumberland* together with J. Bailey, he asserted that the societies were not the best means for the diffusion of ideas among farmers. Culley believed instead that 'public farms' could achieve greater success in presenting the farmer with a model of good practice. Nevertheless, by 1811, a committee was set up to prepare a plan for an agricultural society and experimental farm and in 1836, the Northumberland Agricultural Society was established.[73]

The encouragement of agricultural improvement took place on three levels - the national, regional and local - and this ensured that farmers had every opportunity of coming into contact with a number of societies at any level. In general, the difference between the national and provincial societies was one of scale. The latter operated within a smaller area than the former. These societies extended their influence over their respective territories or 'limits' as they were called by contemporaries. For example, the YAS operated within the three Ridings and the Bath and West's work covered the south western counties. As the result of a merger with the Devon Society in 1851 and an amalgamation with the Southern Counties Association in 1868, the latter's territory covered the whole of the south west and the southern coastal counties as far east as Sussex.[74] In the case of the smallest societies and farmers' clubs, their territories were limited to a district or even a few square miles of countryside, an area served by the market town or large village from which the

[72] 'Farmers' Clubs and Chambers of Agriculture; *F.M.* **39** (1871), p. 141; Mr Rigby, 'Local Agricultural Societies' *F.M.* **29** (1866), p. 212.

[73] J. Bailey and G. Culley, *General View of Agriculture in Northumberland, Cumberland and Westmorland*, referred to in *T.Y.A.S.* **94** (1937), p. 6.

[74] 'Report of the Council', *J.B.W.E.S.* **16** (1868), pp. i-iii.

society took its name and its members gathered on market days. Local societies had the advantage of bringing information into more remote localities and to farmers who did not have the means to participate in the activties of the larger societies.

The scope of influence of the provincial societies was smaller than that of the national societies. Nonetheless, regional and local societies were important as they 'possessed the means for rewarding merit in the locality and obtaining and diffusing local information'. They also had the ability to 'bring out a field of competition without spreading it beyond the grasp of the breeders, the mechanics, or the practical men of the neighbourhood.'[75] The regional shows were 'excellent "feeders" to the national meetings of the kingdom; encouraging exhibitors to try their footing a little deeper still'.[76]

The societies had a significant role to play in the education of landlords and farmers alike. The state came only slowly into the organization of agricultural education, both for farmers and agricultural labourers. The pioneering work in rural education was carried out by private institutions and it was not until the twentieth century that the government turned its attention to teaching the agricultural community.[77] 'The [YAS], in its early days years, not only had to provide the means of educating farmers, but first had to convince them that they needed to be educated.'[78] These objectives were embraced in its motto, 'Progress, encouragement, education, and the broadcasting of information and experience.' The agricultural societies certainly saw themselves as agents 'for the dissolution of the isolation which characterized the ordinary countryman's existence'[79]:

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[75] 'The Progress of Agricultural Societies' *B.F.M.* **16** (1850), p. 538.

[76] 'District Agricultural Societies' *F.M.*, **41** (1854), p. 69.

[77] The Chair of Agriculture at the University of Edinburgh was founded in 1790 with a government endowment of £150. The Chair of Agriculture at Oxford, was established by a private legacy in 1796. The Royal Cirencester Agricultural College was set up in 1842 entirely by private subscription.

[78] General Collin, *History of the Yorkshire Agricultural Society* (1977).

[79] Fox, 'Local famers' associations', p. 47.

> The farmer is not so much within reach of information as the merchant and manufacturer; he has not, like those who reside in towns, the means of ready intercourse, and constant communication, with others engaged in the same occupation. He lives, retires; his acquaintance is limited, and but little valued; and, unless in the habit of reading, he is little likely to acquire any other knowledge of his own art than what is traditionary [SIC], what is transmitted from father to son, and limited, in its application, to his own immediate neighbourhood.[80]

The early societies existed to organize meetings of agriculturists. They acquired agricultural information from around the country and published it in their transactions; they provided the opportunity for the display of new implements, better crops or practices, and were a forum for the exchange for ideas. The later societies were mainly concerned with the organization of the large-scale peripatetic show. We will discuss the success and limitations of these activities in turn.

In order better to instruct the farmer, the early societies aimed 'to cull from the farming of all England such points of practice as seem likely to make any improvement on our own.'[81] One of the earliest ways was to solicit information by the circulation of questionnaires. In 1778, the Bath and West requested the High Sheriffs of various counties to circulate a list of questions ranging from sheep-rot to manures to suitably qualified persons. As a result, the Society received a curious assortment of practical advice and superstitious notions which it reproduced in its journal, *Letters and Papers*.[82] The circulation of questionnaires was a cumbersome and inefficient method of collecting information but it was the only alternative to travelling in an age of poor overland communication.

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[80] From Rigby's translation of Chateauvieux, *The Agriculture of Italy* in J.R. McCulloch, *Statistical Account of the British Empire, Vol. 1*, (1837), p. 546.

[81] 'Introductory Notice', *J.B.W.E.S.* **1** (1853), p. 7.

[82] *Letters and Papers*, **1** (1780), pp. 19-26; 51-61; 156-63, **3** (1786), pp. 100-8. This method was also used by the Odiham Society and the Doncaster Agricultural Association. Fox, 'Local farmers' associations', p. 47.

Some of the societies, like the Bath and West, ran experimental farms but most societies lacked the resources for such an undertaking. In any case, these experimental farms were usually unsuccessful and short-lived. In general, the societies encouraged their members to engage in modest experiments, usually a specified course of experiments, and to record the results for publication. For example, experiments to determine the best artificial manure for turnips, or the usefulness of bone dust as manure. Farmers were required to keep detailed records of these experiments and the best of these were printed in a society's transactions.

Many of the societies also had libraries and provided books and periodicals for circulation among their members. It was not uncommon to find subscription lists being opened to purchase Arthur Young's *Annals of Agriculture*, or the *Farmer's Magazine*. Even the smallest society had a library. In this respect, the societies made a contribution towards exposing the farmer to information in books which might in turn have stimulated active discussion. In this way, up-to-date practical and technical information from non-local sources was made available to their members.

The societies also possessed an extensive correspondence network and often subscribed to the journals of other societies. Members of the various societies were in contact with each other and the letters exchanged between societies were read out at meetings. Those thought to be particularly relevant were reprinted in the societies' transactions. Discussion meetings were also particularly useful for disseminating information. In the case of the regional and local societies, the discussion meeting featured prominently among their activities and was usually held in a place within a short distance of the homes of most of their members. After the 1850s, the development of an integrated railway network greatly assisted the transmission of information. The societies could invite guest speakers like Augustus Voelcker, doyen among professional agricultural chemists of the nineteenth century, to discussion meetings. Such meetings must have brought large numbers of farmers together and set them talking about agricultural topics. The contents of these meetings were often reported in the local newspapers and the agricultural periodicals thus making them available to a larger readership.

Another way in which the early societies diffused the latest ideas was by exhibition. The principle of exhibition was important because it drew attention to new ideas and hopefully, in so doing stimulated interest. The early societies certainly recognized this when they set up their 'Model Rooms' and 'Repositories for Inventions' filled with agricultural implements for the inspection of 'gentlemen and farmers' so that these could be examined, imitated and it was hoped, improved on.[83] The societies also organized stock and implement exhibitions. These were usually small-scale one-day affairs held in conjunction with the annual meetings. It is difficult to ascertain the success of the model rooms and the early shows as no evidence to the kind of response these generated can be found in the available documents. However, these were useful precedents to the large-scale peripetatic shows of the later societies and aimed to propagate the latest ideas in stock breeding and agricultural machinery.

The peripatetic agricultural shows organized by the later societies had more impact on the agricultural community. In this area more than in any other, the societies managed to attract an audience from the farming community at large from the great landowner down to the humble agricultural labourer. The stock exhibitions and implement trials created a desire for knowledge of better methods of farming and encouraged emulation by example. Interest in the development of agricultural machinery is reflected by the large proportion of half-crown tickets bought by agricultural labourers for admission to the RAS York show at 6am. The RAS reported that the labourers could have been admitted at 2pm for a shilling but preferred arriving early for 'a real good look around' despite the expense[84].

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[83] Christine Macleod points out that the societies were 'implementing an idea originally mooted by Francis Bacon: Salomon's House was to contain a gallery of inventions, and the idea was repeated by Baconians like Petty throughout the seventeenth century. Nehemiah Grew had suggested in 1707, as part of his ambitious improvement scheme presented to Queen Anne, that there should be "repository in every county" to contain examples or models of all tools, machines and materials, with the aim of prompting invention and improvement.' *Inventing the industrial revolution*, p. 195.

[84] *J.R.A.S.E.* 9 (1848), pp. 25-6.

The shows were also highly regarded for their entertainment value. Many attended for purely social reasons mainly because the shows brought a slice of the rural into what was becoming an increasingly urbanized world. They have been referred to as 'annual places of resort for the poorer classes, instead of the so-called summer pleasure fairs' rendering them 'not on that account less valuable in a social and moral, as well as from an agricultural point of view.'[85] They were important as a new form of rural recreation for country and town dwellers alike.

Numerous displays of enthusiasm from contemporaries about the beneficial effects of particular aspects of the work of the societies can be found. Fletcher Clarke, wrote 'that Agricultural Societies have done good throughout England cannot for a moment be disputed'.[86] Crosskill claimed that the efforts of the societies had resulted in 'the speedy adoption of important reforms in agricultural practice'. Hannam described how 'the spirit of improvement spreads over the neighbouurhood' after the establishment of the society there and Morton wrote of their 'great service to agricultural progress'[87]:

> They [the societies] have done much to forward the science and practice of agriculture in all its branches by collecting and publishing valuable information; by experimenting on soils and crops; by enquiries into causes and remedies of diseases of crops and cattle; by protecting the farmer from imposition and fraud by a systematic testing of seeds; artificial manures, and feeding stuffs.[88]

Foreigners were also impressed. De Lavergne declared that the frequent meetings held in England 'for the purpose of mutually communicating...ideas and experiences'

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[85] 'Agricultural Shows and their Influence on Agricultural Progress' *F.M.* (3) **29** (1866), p. 376. Plowman also discusses the 'social advantages of shows' in his paper, ''Agricultural societies and their uses', pp. 176-7.

[86] *Wensleydale Advertiser*, 27 August 1844, quoted in Hall, thesis, p. 61.

[87] A. Crosskill, 'Agricultural shows and their influence on agricultural progress', *F.M.* **29** (1866), p. 375; *Qtrly J. Agric.* (1840-1), p. 468; Morton, 'Agricultural progress', p. 63.

[88] Plowman, 'Agricultural societies and their uses', p. 179.

rendered English farmers, 'even the smallest among them...well-informed with regard to the latest improvements'.[89] Another Frenchman claimed that the agricultural societies 'must be classed among the causes which have had the most happy results on the advancement of English agriculture.'[90]

Many of these evaluations have been made by individuals actively involved with the societies and one must be aware that self-congratulation was a common method to attract new members. Nevertheless, the authority of their combined voice would be difficult to challenge. The fact that most of them were practical farmers themselves should bear testimony to the contribution made by the societies in the agricultural progress that took place.

J.C. Morton, in a paper to ascertain 'the share which agricultural societies have had in promoting the progress' in agriculture, came to the following conclusion:

> ...it is impossible to doubt that these societies have been of service in the promotion of good cultivation, both by the stimulating influence of competition which they have excited, and also by the guiding influence of the awards that they have made. And in previously backward and secluded localities, especially where railroad and access to new markets have happened together with the establishment of the local society or club, great agricultural improvement has unquestionable been accomplished.[91]

It would certainly be too simplistic to assume that the establishment of an agricultural society always led to agricultural improvement. After all, many societies that came about perished within a decade or two due to an inability to sustain the interest and financial support of the agricultural community. However, the enthusiasm to establish the societies in the first place illustrates the spirit of improvement among the more enlightened farmers. If the question asked was how far the societies' hopes and

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[89] L. De Lavergne, *The Rural Economy of England, Scotland, and Ireland* (1855), pp. 112-3.

[90] *Revue Agricole de l'Angleterre*, **1** (1859). p. 58.

[91] Morton, 'Agricultural progress' *J.R.S.A.* **12** (1863-4), p. 60.

expectations for agricultural progress were realized, the answer is that knowledge about agricultural systems increased out of all recognition during the period covered. If the question asked, as contemporaries pointed out, was whether 'knowledge' would 'pay', the answer would be a lot harder to provide. It is difficult to assess precisely the degree to which the societies and other aspects of agricultural progress were translated into increased agricultural output. [92] The most significant contribution of the little coteries of men that were established all over the country, ready and anxious to discuss and exchange the latest agricultural practices and the most recent improvements was that they characterized the spirit of inquiry and progress throughout the eighteenth and nineteenth centuries and in so doing, did much to stimulate interest in agricultural improvements in the farming community.

The following account, recounted by one of the Bath and West's leading members, John Billingsley, provides an effective summary of the efforts of the agricultural societies in stimulating interest in agricultural improvement:

> There are many, particularly among the classes of the less active gentlemen, mechanics of contracted views, and conceited farmers, who hold this and all similar establishments in utter contempt, ridicule their proceedings, and seize every occasion to manifest their disapprobation and dislike. Whether this ill-will proceed from an indisposition to contribute to its funds, or from perhaps a supposed conviction of its inutility, it may be difficult to determine; and perhaps the best answer which can be given to such hesitating and querulous characters, is that which a member of the Society gave to a farmer, who sarcastically remarked, that "He had been thinking whether the Bath Society had done harm or good?" "Have you," said our friend; "why, then, you may rest assured that it has done good." "Why? rejoined the farmer, "Because it has led *you to think*, who seldom *thought* before."[93]

[92] 'The Farmer's Newspaper' *F.M.* (3) 6(1854), p. 486.

[93] 'On the Utility of the "Bath and West of England Society"' *ibid.*, pp. 238-9.

Nonetheless, in evaluating the work carried out by the societies, it has to be recognized that they were working against a set of obstacles such as farmers' and labourers' resistance, limited funds, and at times, unsupportive public opinion. This will be explored in the next section.

7.3 LIMITATIONS AND OBSTACLES TO SUCCESS

One yardstick for determining the success of the societies and their effectiveness in bringing about changes in attitude among the agricultural community, was the extent to which they managed to break through the class barriers and reach the tenant farmer and agricultural labourers. In this respect, one finds that the communication and exchange of ideas that took place, especially during the first period, was restricted by social class. For a host of reasons, it is doubtful if the activities of the early societies managed to reach a wide audience of farmers. Even though the societies formed an extensive correspondence network, the leaders and most active members were often drawn from the same social class. This group were small and largely motivated by the ideals of the gentleman amateur tradition. It is very likely that the communication and correspondence that took place was confined to the ranks of the bourgeoisie only. In this sense, diffusion of knowledge occurred horizontally across and not vertically down the social ladder.

Even if the individual members, in their roles as landlords, attempted to disseminate the information they acquired from the societies to their tenants, it is unlikely that the latter group would have taken heed. It was very difficult to convince the tenant that change was to his own advantage. The farmers' experience 'taught the wisdom of tradition and the folly of change' especially when implemented from above.[94] Thus the landlord was poorly equipped to instigate that change even by personal example. An account in the *Farmer's Magazine* states:

> The example of one who is a good farmer, must have a much more beneficial effect in his neighbourhood, than that of a great landholder, however successful his practice may be...To such a man occasional failures are of little

[94] Macdonald, 'Diffusion of knowledge', p. 30.

> importance, though they might be serious to ordinary farmers, who on this account, are seldom very forward in venturing out of their usual routine.[95]

Habakkuk has also expressed reservations about the importance of the landlord as a role model for his tenant farmer. While a number of landlords did conduct experiments and employ advanced methods at their home farms, the scale on which these farms operated and the extravagance with which they were conducted made the ordinary farmer highly sceptical of the progressive agricultural practices of the landlord. Furthermore, these farms rarely showed a profit and many were run at a loss.[96]

An important communication gap often matched the social divide between landlord and tenant-farmer. The following letter from George Boswell, a Dorset farmer and expert on the art of irrigating meadows, to another working farmer in Northumberland, exemplifies the attitude of the practical man to his social superiors:

> I've just had a letter from Sir John Sinclair acquainting me with the establishment of a Board of Agriculture, and with Desiring me to attend it in London as they wish to try an experiment of watering Hyde Park & Saint James Park. I have yet [not] answered it - He is quite ignorant of my situation in Life - it will not suit my inclinations nor pocket to go two hundred miles at my expense to gratify the idle curiosity of every person that chuse to ask it! - I have had one or two of these excursions already - *pro bono publico*, won't always do. I very much doubt of the utility of these things in the hands of Lords and Dukes. Plain Country Farmers are not *at home* when they are with such sort of Folks. My hand, heart & Table such as it is are allways at the command of my Friends and nothing give me greater pleasure than to exchange mutual knowledge; but to dance attendance upon great Folk, & to answer such Questions as they may deign to ask you & then with an

[95] *F.M.* **21** (1820) p. 480.

[96] Habakkuk, 'Economic functions', p. ??.

> ungracious Nod be told you are done with - will not suit the stomach of your sincere Friend.[97]

Such views were held by many farmers who declared that the new agriculture was only for gentlemen who had money to burn, and that ordinary farmers must keep to the old ways. This made the adoption of new agricultural practices very difficult, as Williamson pointed out:

> Tell the farmer his plough is badly formed, and he will answer you, *'it suits his county'!* Tell the labourer that it works ill, and he will answer that *'it is the fault of the land'* ! Both master and man will, at the same time, entertain a sovereign contempt for all opinions proceeding from any man not born under a harrow.[98]

The resistance of famers and labourers was a glaring obstacle in the activities of the societies. In trying to convince farmers to change to a new method, the societies had first to convince them of the increase in profits that would arise from the change. Farmers did not generally farm for the glorification and improvement of agriculture, but for profit. They did not buy better breeds of stock or new implements because they felt it would improve the standard of agricultural practices. They did so because they felt it would improve their standard of living. However, convincing the farmer was no easy matter. Perhaps the opinion held by one farmer of his own kind reveals most about the enlightenment of the typical farmer: 'I never converse with farmers without a fever; I would as soon argue with a methodist, and deem a horse in a mill a superior character.'[99] Even the practical farmer's loyalty to Farmer George had its limitations:

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[97] Northumberland County Record Office: ZCU/18. George Boswell to George Culley, 1793. Quoted in Macdonald, 'Diffusion of knowledge', p. 31.

[98] T. Williamson, *Agricultural Mechanism*, (1810), p. 2.

[99] W.W. Belcher, *Ann. Agric.*, 4 (1785), p. 37.

> The influence of *Majestic rays* will scarcely kindle the dormant spark in the Farmers' breasts, for though in his going to see the Farms round Weymouth he observed and told them 'bad Farmers, bad bad Farmers, thistles, thistles, thistles Farmer, earth hills, earth hills Farmer every where, they should be cut, yes cut and kept neat...Yet thistles and earth [ant] hills still grow at Winford.[100]

Nathaniel Kent observed in the 1790s that 'husbandmen are more obstinately attached to old practices, let them be ever so bad, than any other description of men, and are consequently averse to the introduction of anything new, let it come ever so well recommended.'[101] Farmers were 'the worst and most inefficiently educated' group in the country. Trow-Smith writes of the nineteenth century farmer as being:

> ...content to practise the farming he had learnt at his father's knee or over a neighbour's gateway, and be the Hodge of Punch and the cook on his own dungheap...it must be remembered that the norm was half a century behind, despite the acceleration in the pace of agricultural education imparted in book, periodical, agricultural meeting and show.[102]

The average farmer remained highly sceptical, if not totally oblivious, of the information available in the journals published by the societies during the eighteenth century. One finds that a basic theme throughout the period was the reluctance of farmers to consult printed matter. Lord Somerville, President of the 'old' Board of Agriculture between 1798 and 1800, complained that farmers were not a 'reading class of people' and that the weekly journal of the county was 'the probable extent of their literary pursuits.' He also admitted that the Board's *Communications* had a very limited circulation.[103] The third Earl of Spencer lamented that the *Farmer's Series* of

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[100] G. Boswell to G. Culley, 2 Oct 1792, NCRO/ZCU/17, quoted in Macdonald, thesis, p. 475.

[101] Quoted in W. Marshall, *The review and abstract of the country reports to the Board of Agriculture, Vol. 3, eastern department* (York: 1811), p. 356.

[102] R. Trow-Smith, *A History of British Livestock Husbandry, 1700-1900* (1959), p. 234.

[103] Somerville, *System followed by Board of Agriculture*, p. 16.

the Society for the Diffusion of Useful Knowledge was hardly taken up by the ordinary farmer for whom it had been intended.[104]

Another cause for doubting the impact of the transactions was the poor general level of literacy. In the eighteenth century, it is highly likely that only a minority of rural families had a single literate person in their midst. And even if such a person was found, they would have found the task an unfamiliar and diffcult one.[105] Fewer still were able to afford to follow the advice Young gave in the later editions of his *Farmer's Kalendar* to acquire a library of their own. It was estimated that the complete set of the Board of Agriculture's *Reports* would have cost over twenty guineas and that 'at such an extradordinary price, there is no reason to suppose the British farmers will be much benefitted thereby'[106]:

> The high price of the *Reports* collectively, and the voluminous matter an Inquirer has to wade through, before he can select what applies to his own particular concerns, has deterred the Practical Farmer from availing himself of those authorities.[107]

We can surmise that this was the case with the transactions of most of the other societies, despite the aims of the societies for the diffusion of improvements through publication, it would seem that their efforts had little influence on the ordinary farmer. Nonetheless, this did not mean that the transactions did not have any effect on the agricultural community at all. Rather, this was limited to a section of it.

The discrimination of the labourers, especially in the case of agricultural implements, was another obstacle. In the early years of its existence, the Bath and West constantly

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[104] The reviewer of the second edition of Stephen's *Book of the Farm* complained that there was less demand for agricultural books than for any other class of professional book. J.C. Morton, 'Agricultural Education' *J.R.A.S.E.* **1** (1865) pp. 455-7.

[105] R.S. Schofield, 'Dimensions of Illiteracy, 1750-1800' *Explns Ec. Hist.* **10** (1973), pp. 437-54.

[106] James Donaldson, *Modern Agriculture, Vol. 4* (1796), p. 326.

[107] W. Lester, *A History of British Implements and Machinery Applicable to Agriculture* (1811), preface.

offered premiums for the use of the Norfolk and other ploughs. However, it found that 'not one farmer in five hundred has followed the example, though many of them daily receive ocular demonstration of the inferiority of their own ill-constructed ploughs.' One of the leading members of the Bath and West, John Billingsley felt that the fault lay may with the labourers rather than with the farmers:

> To what can this blindness and obstinacy be owing? The farmers are quick-sighted enough in most other matters wherein their interest is concerned. I am therefore inclined to think the fault lies more with the ploughman than the master, whose indolence induces him rather to accommodate the plough to the man, than to exert himself in making the man accommodate himself to the plough.

The disinclination of farm servants to adapt themselves to the change which was beginning to influence the whole system of industrial occupation in England proved a great obstacle to the more general use of improved implements. It was not uncommon to find instances where labourers would deliberately misuse and damage the implements so that they could revert to traditional methods:

> ...Complaints having been frequently made by Gentlemen Farmers, that their servants and labourers are so prejudiced against the use of New Drill Ploughs, or improved implements in husbandry, that they will often either not work them properly, or spoil them in order that they may return to the use of commonly employed.[108]

In spite of the efforts of the societies and the number of improved implements available, there were still large numbers of farmers who preferred the old-fashioned tools inherited from their fathers. There was a general rural distrust of machines: a fear of mechanization replacing human labour and resistance to the introduction of new machinery manifested itself in a series of arson and machine-breaking by the agricultural workers in 1830. The Labourer's Revolt of 1830 was a result of a

[108] B.W., *Rules, Orders...*(1782), p. 48.

combination of reasons among which were the loss of winter employment to the threshing machines and the lack of alternative occupations. Their anger was directed towards the symbols of their misery; barns were burnt and threshing machines were smashed:

> The Duke of Richmond went down to Sussex and had a battle with a mob of 200 labourers, whom he beat with fifty of his own farmers and tenants, harangued them, and sent them away in good humour. He is, however, very popular. In Hants the disturbances have been dreadful. There was an assemblage of 1,000 or 1,500 men, part of whom went towards Baring's house (the Grange) after destroying threshing-machines and other agricultural implements; they were met by Bingham Baring, who attempted to address them, when a fellow (who had been employed at a guinea a week by his father up to four days before) knocked him down with an iron bar and nearly killed him.[109]

The scope of the societies was thus largely confined to the upper echelons of the agricultural community and as such, was limited to small number of active members. It is evident from the records that the members who held office and the members who participated in the activities of the societies were one and the same. It was often the same few members who took part in the ploughing matches, who competed for premiums, who attended the meetings, who contributed in the transactions and organized the shows. The majority of the members were willing to remain passive bystanders who merely paid, or in many instances, failed to pay their subscriptions.

The lack of financial security was a problem that plagued both the national and provincial societies and generally affected most of the societies studied. Because the societies were voluntary associations, they were dependent on the goodwill,

[109] 'The Greville Memoirs, 21st November 1830' in R.L. Tames, *Documents of the Industrial Revolution, 1750-1850* (1971), p. 148. These outbreaks were eventually quashed by the government and their troops. Nine were hanged, 457 transported and many sent to prison and thus, ended what was to be the last revolt of the English agricultural labourers.

membership and money of landowners. We have seen in an earlier chapter how certain societies such as the Bath and West and the Board of Agriculture, faced an uncertain future after the 1800s. This was due to a generally unsupportive membership who entertained ideas that agricultural practice had already attained a 'state of perfection' and thus could be further improved upon.[110]

The problem of arrears was a persistent one and a reason for this could be that a number of those who joined a society in the first flush of enthusiasm did not actually become committed and sooner or later defaulted on their subscriptions. The YAS purged its membership lists of these nominal non-paying members and as a result, its membership fell from 840 in 1843, to 750 in 1845 and 680 in 1847. The Society attempted to devise better ways to collect its subscriptions from as early as 1840 when a sub-committee was set up to appoint collectors in the market towns. In 1844, at the Society's Doncaster show, an official collector was appointed. This was one John Watson of York who was to be paid 'one shilling in the pound for collection of subscriptions inclusive of the expences and have £1 1*s* 0*d* per day when employed for the Society at the annual Show in addition to his expences.'[111] The RAS also had the same problem of members defaulting on their subscriptions. By 1845, the amount in arrears was £6,802.[112] Even the smallest societies faced the problem of arrears. In 1845, the secretary of the Wensleydale Agricultural Society had received so few subscriptions that Fletcher Clarke was prompted to report in the *Wensleydale Advertiser*, 'We fear that this little Society will be bankrupt for want of a little energy.'[113] He also complained that the Society lacked the 'countenance and support' hitherto from 'several of the principal landed propretors in this township, a circumstance which reflects no credit upon the parties and indicates but little of that public spirit and disinterestedness which is generally found amongst the class to which they belong.'[114] In 1849, the Bath and West appointed a new secretary, Henry St John

[110] See FIVE (5.1).

[111] Hall, *History*, pp. 74-5.

[112] 'Report of the Council' *J.R.A.S.E.* **6** (1845), p. xx.

[113] 18 March 1845, quoted in Hall, thesis, p. 61.

[114] 27 August 1844, quoted *ibid.*, pp. 61-2.

Maule and 'having a regard to the pecuniary circumstances of the Society, the office should be an honorary one.'[115]

The success or failure of a society also depended to a large extent on the fortunes of war and peace. The zeal to form the early agricultural societies took place alongside the protectionist and patriotic feelings of the Napoleonic Wars. During the post-war depresssion, support for these institutions noticeably fell and many disappeared as a result. In its place was a clamour for protectionist legislation. Such sentiments were reflected in the level of premiums offered. [See *figure 7.5*]

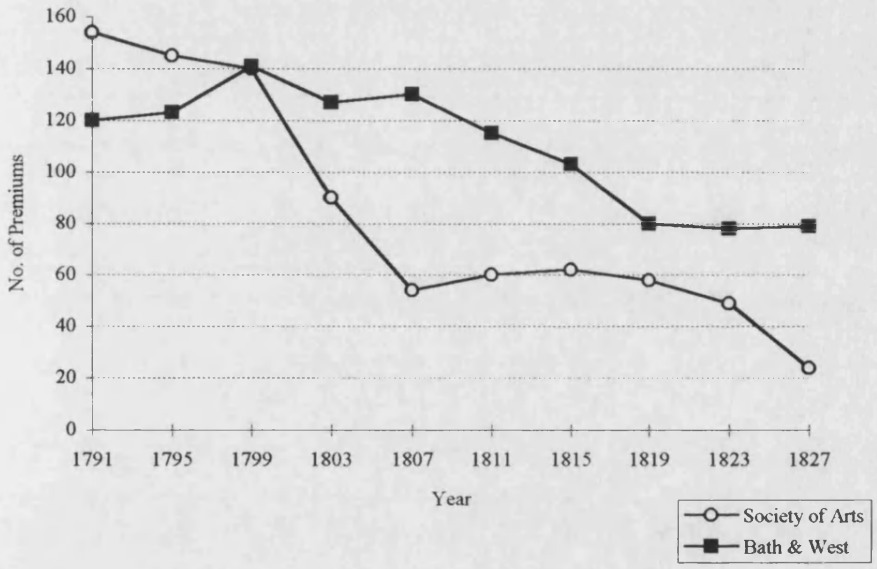

Figure 7.5 : Premiums offered by the Society of Arts and the Bath & West Society at four-yearly intervals, 1786-1827.

Source : *Transactions of the Society of Arts...*(1786-1827); B.W., *Rules, Orders...*(1786-1827).

At times, public opinion was also a force in determining attitudes towards agricultural improvement. The later societies were very popular with both the rural and urban populations and more successful in reaching a broad spectrum of farmers. However, the economic topography of the second half of nineteenth century was characterized by among other things the growing schism between town and country as agriculture

[115] B.W., 'Report of the Committee of Superintendence', *Rules, Orders...*(1851), p. 20.

and the problem of agriculturists were pushed into the background as far as public attention was concerned.[116] This was a reflection of the increased preponderance of urban over rural interests. From the early 1860s, there was a tendency for rural affairs to be portrayed in the national press as dull, backward, and something to be ridiculed. The following complaint about the way in which London daily newspapers reported agricultural shows illustrates this point:

> We were much amused, a few years since, with a batch of men from the 'gallery', who, in the dull time, went down specially to the Royal Bucks Agricultural Association at Aylesbury. They began with a good lunch, then smoked their cigars, and wandered over the town to look at the gaol and the church, or at anything but the cattle show, which they carefully avoided. However, they were ready again in two or three hours for the dinner and Mr Disraeli, with a full report of whose speech they started back again, having a supreme indifference for anybody else or anything else connected with the especial object of the occasion. Then with a proof at his side, the critic of the Sanctum goes to work. If the orator was cheered in the country, he is abused in the town. If he is a popular country gentleman, the most pitiless ridicule and abuse is pretty sure to be his portion; and if the farmer is ever mentioned at all, it is only to be laughed at. Even *Punch* still imbues him with the vernacular of the comic countryman when he 'took up to poarching in the sayzon o' the 'ear''.[117]

The patronizing air of the introduction to 'Country Newspapers' in 1864 supports the point:

> The English Farmer is a spendid specimen of the human race. He can generally ride well to hounds and has of late years picked up some queer ideas at Cirencester and other centres of science...But the sort of writing which is intelligible to ordinary men is to *him* a mystery. He would make nothing of a

[116] R. Trow-Smith, *Society and the Land* (1953), pp. 117-56.

[117] 'The Tone and Tendency of the Autumn Meetings' *F.M.* (3) 20 (1861), p. 436.

> *Times* leader. He would find the *Saturday Review* as inexplicable as if it were in Sanscrit. His mind has run in other grooves; and he would have much the better of you or me, intelligent reader, if it were a question of judging a Shorthorn or a crop of wheat. Small blame to our agricultural friend if he ignores what you and I think excessively interesting. One cannot do everything.[118]

Thus when W.E. Bear complained in 1879 of the lack of interest shown in agricultural affairs by the general public, this was a reflection of an already well-established tendency. He claimed that the national press devoted more attention to the Boat Race than it did to 'the finest agriculture in the world' during the whole year, and gave several columns to a 'petty suburban [horse] race - a mere bookmakers' meeting' while the problems of agriculturists were virtually ignored.[119]

Throughout the period under study (1754-1870), the fortunes of the agricultural societies appear to follow a broad pattern, feeling their way forward in the early years, bursting in an energetic bout of activity till the end of the eighteenth century, and suffering a lull in the 1810s and 1820s. A new-found enthusiasm was evident from the 1830s when many societies were revived and new ones established. The middle years of the nineteenth century were marked by the controversies surrounding the premium system, controversies that were eventually resolved with the re-organization of the premium system at the end of the period.

For most societies, it would appear that the prime function was the award of premiums for agricultural improvement and the diffusion of information. The societies played an important role in stimulating interest in agricultural improvement. The societies were 'nodes around which all types of networks for the transmission of information - formal and informal, printed and personal, local and national - met and

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[118] 'Country Newspapers' *Temple Bar* **10** (1864), p. 131.

[119] 'The Public Interest in Agricultural Reform' *The Nineteenth Century* **5** (1879), pp. 1079-80. Bear succeeded Henry Corbet as editor of the *Mark Lane Express* in 1877.

interacted.'[120] The success of the societies and the premium system was limited by several weaknesses and limitations, not always of their own doing. The fact that the societies were associations of landowners cannot be denied. Indeed, the societies depended very much on this group of individuals for their existence. However, this should in no way lessen or obscure the significance of their activities. Certainly, improvement would have occurred without the existence of the agricultural societies but they hastened the process and formed a firm basis for its development. They were a symptom of the wish to improve and a means by which improvement was engendered. There was never any attempt at systematic coverage imposed on the country. Societies grew up spontaneously as the need was felt. They had an instructive element and through competition (premium system), publication (journals) and exhibition (shows), they fostered an interest in agricultural improvement. How many farmers actually benefitted from the societies cannot be ascertained. However, from the records left by certain societies, it can be seen that attempts were made to draw in the entire agricultural community. The contribution of the societies and the premium system was that they stimulated an interest in agricultural progress, diffused information and, most importantly, opened the eyes of farmers to the possibilities and ways to improvement.

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This chapter has shown that the level of participation in the premium system was limited to members of the Society and dominated by a few individuals or firms. This was because very scarce factors such as an improving mind, a high level of literacy, or considerable financial means, were necessary to become a premium winner. As we have seen, this intense elitism and subjectivity of the premium system led to its general decline in the nineteenth century[121] The participation patterns of the premium system and the controversies surrounding premiums during the mid-nineteenth century may lead one to conclude that the premiums did not stimulate much innovation and the system was by and large ineffective. However, the fact that individuals competed for premiums demonstrates that it generated enthusiasm and encouraged people to try

[120] Fox, 'Local farmers' associations', p. 55.

[121] For the controversies that led to the decline of the premium system, see SIX (6.1) and (6.2).

new practices. Furthermore, the force of emulation by example should not be undervalued. The agricultural shows had the distinct advantage of demonstrating to farmers the best breeding stock and the most efficient implements to suit their purpose.

Due to the limitations of travel, communications, and the nature of their activities, the early societies operated within a smaller compass than the later societies. Because they were reaching a smaller audience, the net effect of their activities would have been smaller and their influence was localized. The establishment of later societies took place alongside the expansion of the railways which facilitated the development of the peripatetic agricultural shows. By holding their annual shows at different towns each year, the societies managed to reach a wider audience than their predecessors. In bringing the latest farming practices to different towns each year, they were exposing a large proportion of the agricultural community to such information.

This chapter has demonstrated that the success of the societies and the premium system may have been restricted because of factors such as farmers' resistance and the lack of funds. Nonetheless, both the premium system and the agricultural societies were significant channels for innovation during the period under study. The societies, brought into being in the eighteenth century and flowering in the nineteenth had reached even the remotest parts of the country by 1870. They were the formal channels for the diffusion of knowledge, both scientific and practical by which any farmer with a desire to improve could widen his horizons, learn from the experience of fellow members of his profession and even contribute by taking part in experiments and trials. In an age that promoted the ideals of *laissez-faire*, the societies were important voluntary agencies for the promotion of agricultural improvement. The next chapter will consider the patent system as a contemporary alternative to the premium system for stimulating agricultural innovation.

8. THE PATENT SYSTEM: AN ALTERNATIVE

This chapter will consider patents as alternatives to premiums and discuss their relevance for the promotion of agricultural innovation. The evolution and development of the premium system took place alongside the existence of the older, more established patent system. Essentially, both premiums and patents were intended as rewards for making an invention available to the public. The idea behind these reward systems was simple: 'merit ought to be rewarded wherever found'. However, the fundamental difference between the two was that premiums made new ideas accessible to as many people as it would benefit while patents were more concerned with the monopoly principle and protecting the rights of the individual inventor. Nonetheless, both premiums and patents illustrate the way people were thinking of the encouragement of innovation and its reward and this will be discussed in the next section. During the eighteenth and early nineteenth century, premiums were generally more popular than patents. However, in the mid-nineteenth century, the premium system was losing its popularity while the newly reformed patent system was gaining currency as a reward system. The relevance of patents as an alternative to premiums for stimulating agricultural innovation will be discussed in the second section.

8.1 A MATTER OF REWARD

In the eighteenth century, many commentators were asking 'how best can we promote invention and innovation'. Macleod cites the foundation of the Society of Arts and the large public interest and support it generated as an indication of the growing concern for invention and innovation in mid-eighteenth century England.[1] Much of the debate centred on questions such as to what extent could society promote invention by providing some form of incentive? or would it occur spontaneously in the absence of such incentives? or did it required such stimulus?[2]

[1] *Inventing the industrial revolution*, p. 199.

[2] C. Macleod, 'The Paradoxes of Patenting: Invention and its Diffusion in eighteenth- and nineteenth- century Britain, France, and North America' *Techn. Cult.*, **32** (1991), p. 885.

Contemporary with this new concern for invention was a novel conceptualization of it as 'intellectual property'. The concept of intellectual property was current during the seventeenth century. However, this tended to be restricted to copyright in literary works. In the sphere of inventions, ideas of providential invention had mitigated against notions of intellectual property. The providential view of invention regarded the inventor as no more than an agent of God and believed that inventions were released as God saw fit. A more secular, Newtonian, conceptualization of inventive activity from the mid-eighteenth century onwards recognized that a multitude of inventions could be produced solely by human effort and ingenuity. J.R. McCulloch stated that an invention 'owes its birth entirely to combinations formed in [a person's] own mind, and which, but for his ingenuity, would not have existed.'[3] This growing regard for the individual inventor also led to the anxiety that he should be rewarded and encouraged. In 1799, Count Rumford identified three ways of stimulating invention and its diffusion in the prospectus of the newly-founded the Royal Institution:

> 1. To give premiums and prizes to inventors; 2. To grant temporary monopolies, and 3. To direct the public attention to the arts, by an institution for diffusing the knowledge and facilitating the general introduction of useful mechanical inventions and improvements. The *first* already constitutes the object of a most respectable society [the Society of Arts]; the *second* is already provided for by the law of the land; and the *third* is now offered to the consideration of the public.[4]

Taken in its context, Rumford was proposing to implement a lecture series at the Institution that would be open to the public. The free communication of inventions was an idea that had been mooted since the seventeenth century with the foundation

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[3] D.P. O'Brien, *J.R. McCulloch: a Study of Classical Economics* (1970), p. 15. For the transition from a providential to a secular view of invention, see Macleod, *Inventing the industrial revolution*, pp. 197-8; 201-4.

[4] Count Rumford, 'Prospectus of the Royal Institution of Great Britain, 1799' printed in *The Complete Works of Count Rumford, Vol. 4* (Boston: 1875), pp. 776-7.

of the Royal Society. However, this type of free communication overlooked the importance of enlightened self-interest. As early as the seventeenth century, Samuel Hartlib and his circle, while advocating the ideal of the free communication of knowledge, realistically recognized the need for incentives to invention and publication. Inventors were unlikely to go through with the expense of experimentation if they could not reap a profit from their efforts. The inventors' conundrum was that if they revealed their discovery to the general public, it would go unrewarded. People would copy it with little regard for their welfare. However, if they kept their discovery secret, nobody would benefit from it.

An agriculturist who faced this problem in Hartlib's time was Cressy Dymock. Dymock believed that his new method of planting barley would revolutionize English agriculture. However, he was unprepared to share his new discovery with the general public for free as he recalled with horror the fate of Gabriel Platts, a renowned agricultural improver who fell 'down dead in the street for want of food, without a shirt on his back.'[5] Instead Dymock chose to wait until he found some method to reap the fruits of his labour. His dilemma was typical of his time. Most English agricultural improvers produced knowledge which they had great difficulty in keeping to themselves. The first Gloucestershire tobacco growers, for example, took several measures to safeguard their secrets from their neighbours, even to the extent of buying land around the experimental farms. However, the farm labourers began to grow tobacco themselves, and within a few years, small Gloucestershire farmers were growing tobacco. Labourers often made such secret experiments 'a talking point among friends and neighbours, and no obstacles impeded the spread of news.'[6] The lack of protection meant that innovating farmers had little incentive to solve important problems. The lack of property rights made the diffusion of results almost as unrewarding as initial experimentation.

[5] C. Dymock, 'Another Letter' in S. Hartlib (Ed.), *Samuel Hartlib, His Legacie* (1651), pp. 87, 88.

[6] J. Thirsk, 'New Crops and their Diffusion: Tobacco-growing in the seventeenth century' in *idem.* (Ed.), *The Rural Economy of England* (1985), p. 284; *idem.*, 'Agricultural innovations', p. 537.

In the eighteenth century, there was a growing awareness of the necessity to compensate inventors for disclosing their secrets. Jeremy Bentham declared:

> A man will not be at the expense and trouble of bringing to maturity [an] invention unless he has a prospect of an adequate satisfaction, that is to say, at least of such a satisfaction as to his eyes appears an adequate one, for such troubles and expense.'[7]

In Bentham's opinion, a reward 'is given to a man, when in consideration of some service supposed or expected to be rendered by him, a service, which it is intended should be a service, is done to him.'[8] Thus, the function of reward was as follows:

> When employed under the direction of the principle of utility, it operates as a motive for the performance of actions useful to society, in the same manner as, under the same guidance, punishment operates in the prevention of actions to which we ascribe an injurious tendency.[9]

Before Shipley's ingenious plan to form the premium-giving Society of Arts came to fruition in 1754, there already existed another form of encouragement for invention and innovation: the patent system. A patent is a grant made by the government giving the inventor the exclusive right to make use of and sell his invention for a limited period. Patents were justified by the largely implicit assumption that invention should be rewarded and encouraged.[10] The patent system was regarded by many contemporary commentators as a contract struck between the public and the inventor, who was awarded temporary monopoly in return for the disclosure of his secrets in the patent specification, that is, a written description of the invention. The reward implicit in the patent monopoly is the possibility of reaping a monopoly profit on the

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[7] W. Stark, *J. Bentham's Economic Writings, Vol. 1* (1952), p. 262.

[8] Bentham, *Rationale of reward*, p. 3.

[9] *Ibid.*, p. 4.

[10] Macleod has pointed out, 'Whether they [patents] achieved this goal was rarely questioned before the nineteenth century.' 'Paradoxes of patenting', p. 891.

invention, a possibility that may be critical to the development of the invention as a marketable commodity. Without such development, the patent may itself be worth little more than the paper on which it is written. As Boehm and Silberston observe: 'The British patent system makes no attempt to reward the inventor: the reward is of his own making.'[11] The patent system grants equal rights to all inventions, from those of epoch-making importance to those of utmost triviality. Each inventor is granted the exclusive right to make use of and sell his invention. Anything falling within the legal definition of invention is eligible for patent rights.

The idea of granting limited monopolies to inventors so that they could reap the financial rewards of their inventions was not a new one. The earliest recorded instance of monopolies dates from around 500 B.C. in Sybaris, a Greek colony famous for its luxurious living and self-indulgence. Athenaeus in his *Banquet of the Learned* quotes Phylarchus the historian as saying of the Sybarites:

> ...if any confectioner or cook invented any peculiar and exclusive dish, no other artist was allowed to make this for a year; but he alone who invented it was entitled to all the profit to be derived from the manufacture of it for that time, in order that others might be induced to labour at excelling in such pursuits.[12]

Another quote, this time the words of an English lawyer in 1602, provides one of the earliest and best expositions of the intent and extent of the patent system:

> Where any man by his own charge and industry or by his own wit or invention doth bring any new trade into the Realm or any Engine tending to the furtherance of a trade that never was used before: And that for the good of the Realm: that in such cases the King may grant to him a monopoly patent for some reasonable time until the subjects may learn the same, in

[11] *Patent System*, p. 1.

[12] A.A. Gomme, *Patents of Invention: Origin and Growth of the Patent System in Britain* (1946), p. 4.

> consideration of the good that he doth bring by his Invention to the Commonwealth; otherwise not.[13]

The objectives of the patent system were thus twofold: rewarding the inventor and encouraging further inventions. Patents for invention have been available in England from as early as the fifteenth century and the principal components of the system were laid down before the end of the seventeenth century. The term 'patent' itself is an abbreviation of 'Letters Patent', a form of legal document by which the Crown has in the past granted a wide variety of privileges besides the grant of exclusive rights to inventors. The earliest English grant that has been found in the Patent Rolls was to a John of Utyman in 1449 for a twenty-year monopoly for a process of manufacturing coloured glass.[14] However, this appears to have been an isolated incident and no other grants occur till the middle of the sixteenth century. During the reign of Elizabeth I, the Crown embarked on a policy of granting exclusive monopoly privileges in connection with expanding industries. This was developed by her Stuart successors to a comprehensive industrial policy where patents were employed by the Crown to stimulate both domestic invention and the importation of inventions from abroad. Under the Statute of Monopolies of 1624, the duration of a monopoly was set at fourteen years.[15] The procedure for obtaining a patent does not appear to have altered substantially between the middle of the sixteenth century and the passing of the 1852 Patents Act.[16]

The patent system was justified by four arguments: the natural-law thesis, the reward-by-monoply thesis, the monopoly-profit thesis, and the exchange-for secret thesis.

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[13] *Ibid.*, p. 1.

[14] *Ibid.*, p. 6.

[15] 21 Jac. c.3. This figure remained unchanged to the beginning of the twentieth century. It now stands at sixteen years.

[16] The rules followed were in substance those laid down in the Act of Henry VIII. This Act (27 Henry VIII. c. 11) known as the 1535 Clerks Act, dealt with all Crown privilege grants and made the holder of the privilege take his letters patent to be sealed by a sequence of different officials. It applied to all grants of the Crown under the Great Seal, including patents. The preamble stated quite clearly that the purpose of this was to finance unsalaried government clerks.

These justifications were in general circulation in the early nineteeenth century and were put forward by a wide variety of individuals, principally political economists, lawyers, engineers, patent agents, inventors and manufacturers.[17]

The natural-law thesis assumes that individuals have a natural property right over their own ideas. Since property is both personal and exclusive, the appropriation or unauthorized use of these ideas would amount to stealing. Hence, the state was morally obliged to enforce exclusivity with a patent.As a general rule, the natural-law theory of property in inventions was rarely advanced by supporters of patents and was practically abandoned by the late 1820s.

In contrast, the reward-by-monopoly thesis was widely used to justify patents. It was based on the assumption that inventors should be rewarded according to the usefulness of their invention. Since this reward cannot be guaranteed by ordinary market forces, society must intervene to secure them such rewards by providng inventors with temporary monopolies. Adam Smith, more than most other political economists, recognized the limitations of the invisible hand in stimulating inventive activity. He supported patents because they allowed inventors a monopoly period during which they could benefit from the fruits of their ingenuity and effort. Without this kind of protection, competitors would be able to take advantage of the invention without bearing the costs of invention and it would not pay for individuals to invent.[18] Smith felt that even 'if the legislature should appoint pecuniary rewards for the inventor...they would hardly ever be so precisely proportioned to the merits of the invention as this [the patent system] is.'[19]

Jeremy Bentham never doubted that patents, compared with any other system of encouraging and protecting invention, were 'proportionally and essentially just.'[20]

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[17] Dutton, *The patent system*, p. 17.

[18] *Ibid.*, p. 18.

[19] A. Smith, *Lectures on Jurisprudence* (1978 edition) R.L. Meek, D.D. Raphael and P.G. Stein (Eds.), pp. 83, 472.

[20] Stark, *Bentham's economic writings*, p. 264.

John Stuart Mill was equally convinced that an exclusive privilege of a temporary duration was the most efficient means of rewarding inventors: 'the rewards conferred by [patents]...depends upon the invention's being found useful, and the greater the usefulness the greater the reward.' Though Mill admitted that patent laws as they stood in 1848 were in need of reform, the principles upon which patents were granted were uncontestable: 'it would be a gross immorality in the law to set everybody free to use a person's work without his consent and without giving him an equivalent.' [21] By the 1840s and 1850s, the reward-by-monopoly thesis provided a stock argument for every writer on the subject.[22]

The monopoly-profit-incentive thesis was probably the most quoted argument in support of patents. It assumed that economic growth is desirable and that patents, invention and industrial development are linked. While it is clear that the hope of private gain can also act as an incentive to invent, inventors would not be able fully to exploit their inventions if patents were not used to protect the inventor. Here inventive activity is associated with both progress and private profit, which probably accounts for the popularity of the argument during the early nineteenth century.

In 1791, Sir William Pulteney wrote to Lord Kenyon that 'I think [patents] have been one of the great causes of the important discoveries which in this country have so much improved our manufactures and trade.'[23] Another writer believed that patents encouraged 'some of the most valuable inventions which the various and astonishing powers of mechanics have produced. If new inventions are not protected, England's sun is set...[and] the mechanical genius of this country will sleep.'[24] John Chitty wrote that patents to the 'first inventor' were the most effective means of encouraging the 'production of GENIUS'.[25] Witnesses examined by the 1829 Select Committee on Patents reiterated these views. W. H Wyatt believed that the patent system was the

[21] J.S. Mill, *Principles of Political Economy* (1902), p. 563.

[22] Dutton, *The patent system*, p. 2.

[23] 'Sir W. Pulteney to Lord Kenyon, 12 May 1791' Kenyon MSS, B.M. No. 1361. Quoted *ibid.*, p. 21.

[24] *Observations on the utility of patents*, pp. 14, 25.

[25] J. Chitty, *A Treatise on the Law of Commerce, Manufactures and Contracts, Vol. 1* (1820-4), p. 6.

greatest 'spur to the improvements of the arts and manufactures in this country.' John Farey, the engineer, argued that 'in all cases, an invention is more speedily brought to perfection under a patent than without, and in most cases it is more speedily brought into general use.'[26] By the 1830s, it was scarcely necessary to suggest 'that facilitating the acquisition of a patent was amongst the most effective modes of advancing the best interests of society.'[27]

In the years before the Great Exhibition, innumerable petitions requesting greater protection for inventors supported the virtues of patents. The petition from the Association of Patentees for the Protection and Regulation of Patent Property claimed:

> [The] unequalled progress which the useful arts have made in Great Britain, and the national opulence and greatness of which they have been confessedly the prime source are distinctly traceable to the encouragement afforded to inventors by the patent law.'[28]

Witnesses examined by the 1851 Select Committee on Patents continued to emphasize the links between patents and prosperity. Many agreed with William Carpmael that the 'manufactures of this country would not have been anything like what they are, had it not been for the patent laws.'[29] Legislative interference was absolutely necessary for the protection and encouragement of invention, industry and trade.

The fourth and final justification for patents was the exchange-for-secrets thesis, or the disclosure agreement. It was based on the eighteenth-century idea of contract and presumes a bargain between society and the inventor where the former offered

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[26] Select Committee on Patents, *Parl. Papers* **3** (1829), pp. 103, 141.

[27] *Hansard*, **36** (1837), pp. 554-8.

[28] *Mechanics Magazine*, **54** (1851), pp. 9-12.

[29] Select Committee on Patents, *Parl. Papers* **18** (1851), p. 203. However, there was a minority opinion represented by the likes of I.K. Brunel who were strongly opposed to the patent system.

temporary protection in return for knowledge of the latter's invention. The presupposition again is that industrial progress is desirable but cannot be obtained if inventors kept their inventions secret. Hence, it was in the interest of society to bargain with the inventor by offering him exclusive patent rights in return for public disclosure of the invention.

This rationale had its origins in the Elizabethan period although at that time, the nature of disclosure was quite different. Inventors were compelled to use the patent to introduce the trade and to teach the mystery of the art to native tradesmen. In the early eighteenth century, the form of disclosure changed and patentees had to describe the nature and manner of their inventions in a specification. Patents 'must not be confused wiith the common notion of monopoly, which it was not, being merely a bargain between the inventor and public.'[30] John Farey put the matter simply: a 'patent is the price of disclosure.'[31] For the *Mechanics Magazine*, the 'only ground on which it can be considered good for the community at large to encourage the taking out of patents, is that it may cause many new and useful inventions to be made public which might otherwise be lost forever.'[32] Many considered that disclosure was analytically the most important ground for supporting patents and by 1851 the argument was commonplace.

Yet, one finds that during the eighteenth century, the patent system was rarely seen in the context of stimulating invention. Any discussion taking place at this time about the best way to promote inventive activity tended to exclude patents which were still largely perceived as monopolies. Significantly, the solutions offered tended to be in the form of direct, immediate financial and honorary rewards, or premiums. Essentially, premiums and patents were opposite sides of the same coin. Both operated to stimulate invention and encourage further improvement. Conceived solely in terms of an individual reward for an individual inventive effort, the premium system and patent system are rather similar in outlook. The rationale is simple:

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[30] *Hansard*, **21** (1829), p. 601.

[31] Select Committee on Patents, *Parl. Papers* **3** (1829), p. 21.

[32] *Mechanics Magazine*, **29** (1833), p. 297.

> An inventor invents, abandons his secret and is rewarded for doing so. The publication of his secret adds to knowledge, and his reward acts as an incentive to others to invent and be rewarded. Both the inventor and society are the richer if the invention proves to be of economic value.[33]

During the eighteenth century, however, patents were still viewed largely as monopolies and it was felt the inventor would benefit from, and be encouraged by a reward that was independent of the hazards of commercial exploitation, and the public would gain from a swifter, more widespread diffusion of inventions:

> [Premiums are] very proper, as when the invention or discovery is of very considerable importance, and evidently tends to general utility; where the inventor has subjected himself to very great labour and expence in the investigation, and is not likely, from his own private use of his discovery, to deserve an adequate emolument.[34]

Thus, premiums tended to be awarded for inventions regarded as of immediate public importance and unsuitable for either monopoly or commercial exploitation. Applications or petitions for awards were addressed to Parliament rather than the Crown and several Acts were passed in the eighteenth century that gave large monetary rewards to inventors.[35] The purchase of an invention by the public for its immediate use and improvement appealed to those who preferred the moral economy to the rules of the market place. It was argued that invention was too important a matter to be left to the whims of the market place, where the inventor was at the mercy of financial backers who wanted to 'improve' the invention and of conservative consumers unwilling to try anything new.[36]

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[33] Boehm and Silberston, *Patent system*, p. 1.

[34] E. Goodwin, 'Thoughts on the Question "Whether a Patent, or a Public Premium, is the more eligible Mode of encouraging useful Inventions"' *G.M.* **56** (1786), p. 26.

[35] For examples of parliamentry awards, see THREE (3.3).

[36] MacLeod, *Inventing the industrial revolution*, pp.182, 190, 192.

Parliament also offered premiums for inventors who resolved certain intractable problems. The first was for the accurate determination of longitude, a problem which Parliament considered too important to be left to free enterprise. By offering a direct financial reward, the new invention would be disclosed and not reserved under a patent. In 1717, a patent was refused to John French who declined to reveal his method to the Commissioners 'apprehending...he shall be defeated of the benefit'. Attorney General Northey maintained that the purpose of the Act was 'to encourage persons to use their endeavours for making so useful a discovery and that whatever should be proposed in order thereunto should be made public to be improved for making the discovery perfect.' Thus in this instance, a patent would have been contrary to the public interest.[37]

Furthermore, patents were not a popular choice with inventors because the unreformed pre-1852 patent system was both enormously cumbersome and prohibitively costly. There were ten major stages, including obtaining the sovereign's signature twice. There were over thirty separate operations between application and grant. Separate patents were necessary for protection in England, Scotland and Ireland, and in England, the applicant had to take his patent application personally to London. The cost of taking out a patent is difficult to assess accurately. An estimate in 1829 by Moses Poole, a patent official and a patentee in his own right, suggested that unopposed by the Law Officers, an applicant could expect to pay about £300 for United Kingdom protection. Poole suggested that the minimum for an English patent alone would be about £100.[38] A later estimate placed these figures more precisely at £274 8*s.* 8*d.* to obtain United Kingdom protection and £94. 7*s.* 6*d.* to obtain English protection.[39] Specifications were sometimes irretrievably lost during the administrative

[37] E.R.G. Taylor, *The Mathematical Practitioners of Hanoverian England, 1714-1840* (Cambridge: 1966), pp. 118-9.

[38] Boehm and Silberston, *Patent system*, pp. 19-20.

[39] Evidence of Professor B. Woodcroft, *Report of the Commissioners enquiring into Patent Law*, 1864, Appendix 1, p. 495. In comparison, an American patent at this time cost $30 (equivalent to approximately £7) and a French patent, 300 livres for five years (approximately £13) and 1,500 livres for fifteen years.

process and the monarch's availability for signing patents was an administrative variable of some importance.

Patentees often found it difficult to enforce their patents and were reluctant to go to court. Charles May of Ransomes and May thought the cost of getting into Chancery is such that 'no one would incur it who could avoid it' and he hoped that 'he would not get there again even though his case was as clear as possible.'[40] Chancery proceedings were often expensive and slow.[41] Thus, patentees either tolerated infringements for years or struck a deal with the chief offenders. Difficulty in enforcing the patent for his flying shuttle led John Kay to think of obtaining 'either...a premium and let his invention go free, or an Act which would enable him to come at his rights otherwise than by tedious chancery suits.'[42] Many inventors, bitterly disappointed with the limited protection which patents offered, frequently condemned them as useless and often threatened not to patent further inventions until the system was reformed. Josiah Wedgwood's letter to Lord Dundonald is a typical late eighteenth-century view:

> I am not surprised at your Lordship's aversion to patents. *They are bad, and deficient for the purpose intended in many respects*, and as any foreigner may learn the discoveries for which patents have been granted at the expense of a few shillings and practice them immediately in other coutries whilst the hands of all British artists and manufacturers are bound during the term of the patent. Considered in this light patents are highly pernicious to the community

[40] Select Committee on Patents, *Parl. Papers*, **18** (1851), p. 369.

[41] Before resorting to litigation in a common-law court, inventors could apply to Chancery for an injunction to restrain infringers. Firstly, this gave patentees instant relief. Secondly, it allowed the Lord Chancellor to appoint qualified inspectors to enter and examine the defendants' accounts and place of manufacture. 'This provided patentees with valuable information which in normal circumstances could be obtained only by more nefarious means [such as industrial spies]. It also 'gave the patentee time to consider the advantages of taking the matter any further: a breathing space wherein costs and benefits could be balanced out.' Dutton, *The patent system*, p. 181.

[42] H.T. Wood, 'The Inventions of John Kay, 1704-70' *J.R.S.A.* **60** (1911-12), pp. 73-4.

> amongst whom the invention originated and a remedy is much wanted in the Patent Office for this evil.[43]

The situation with patents changed with the reform of the patent system in 1852. The excitement generated by the prospect of the Great Exhibition led to increased demand for patent reform. This interest in the patent question was provoked by a genuine fear that unprotected exhibits would allow foreign competitors free access to the latest designs and technology. Between 1848 and 1852, numerous petitions from all over the country were presented to Parliament and the Board of Trade. Many reform associations were formed such as the Manchester Patent Reform Committee; the Committee of the Society of Arts for the Legislative Recognition of the Rights of Inventors; the Arts Protection Society for the Amendment of the Laws affecting Letters Patent; the Birmingham Patent Law Reform Association; the United Inventors' Association for the Amendment of the Law affecting Invention; the Patent Law League; the Association of Patentees and Proprietors of Patents for the Protection and Regulation of Patent Property.[44]

The Patent Law Amendment Act of 1852 completely recast the antiquated system that had been in use during the last three centuries. In the first place, the Act separated patents of invention from other patents under the Royal Perogative and placed them under the immediate control and direction of Commissioners of Patents specially appointed for the purpose. There was a single office and staff dealing with inventors and their agents and a single patent covering the whole of the United Kingdom replaced the three separate patents for England, Scotland and Ireland. The new specification procedure required that specifications, instead of being on parchment and enrolled in Chancery, should be written on paper and filed in the Office of the Commissioners. Furthermore, such specifications should be printed and published, and adequate indexes and other records of the proceedings of the Office and Register of Patent should be provided for the use of the public. The increase in

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[43] 'J. Wedgwood to Lord Dundonald' 26 March 1791, L-17725-96, Wedgwood Museum, quoted in Dutton, *The patent system*, p. 27.

[44] Select Committee on Patents, *Parl. Papers*, **29** (1864), p. 497.

the number of patents granted from 455 in 1851, and an average of 468 a year for the decade 1842-1851, to 2,187 in 1853, and an average of 2,047 a year for the decade 1853-1862, shows the extent to which the new provisions were used and the impetus to invention that they gave.[45]

With the 1852 Patent Reform Act, it was agreed that 'patents had become desirable most especially at a period when the manufacturers of this country have to sustain an active competition with the production of foreign industries.'[46] As a result, patents were transformed 'from instruments of royal prerogative to specialized and statute-based weapons of capitalist competition.'[47] *Figure 8.1* illustrates the number of premiums awarded by the Society of Arts and the number of patents obtained in the same years.

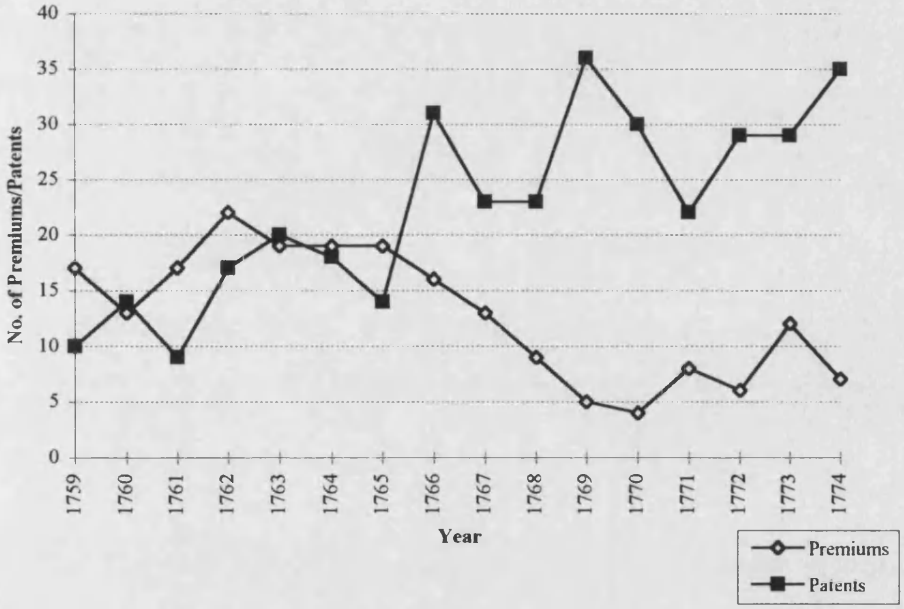

Figure 8.1 : Number of Premiums Awarded by the Society of Arts and the Number of Patents Granted, 1754-1774.

Source : RSA, Register of Premiums; W.M. Wyatt, 'Account of the Number of Patents granted for Inventions, from the year 1675 to 1829', Appendix B.1, *Report of the Select Committee on the Law Relative to Patents for Inventions* (1829), p.216. Both series can only be compared approximately as not all patents were for subjects which would have qualified for premiums from the Society and vice versa.

[45] Gomme, *Patents of Invention*, pp.39-40.

[46] *Minutes of the Manchester Chamber of Commerce*, quoted in Dutton, *The patent system*, p. 42.

[47] Macleod, 'Paradoxes of patenting', p.888.

8.2 PREMIUM OR PATENT

In the context of this study, that is the stimulation of agricultural innovation, the suitability of patents as an alternative to premiums was not apparent until the mid-nineteenth century. Premiums were generally put forward as the more acceptable form of stimulating and rewarding agricultural innovation in the eighteenth century. The declining popularity of the premium system during the mid-nineteenth century coincided with the growing acceptance of the patent system as a viable reward system for innovation. As we have seen, this was partly due to the controversies surrounding the premium system. It was also due to the increasing support of patent protection for inventions in the Patent Reform Act of 1852 which greatly simplified the procedure of applying for a patent. Such a coincidence inevitably raises the question of the relationship between the two reward systems. It is difficult to ascertain the extent to which the decline of the former had any repercussions on the development of the latter. Nonetheless, such a coincidence makes the comparative analysis of both systems very convenient.

In 1800, the agricultural sector employed a third of the workforce, yet it only accounted for 4% of patents. On average, inventors took out about one agricultural patent a year before 1800:

> The manifestation of agriculture in the patent records before 1780 was very far from commensurate with either its position as the largest sector of the pre-industrial economy, or the widespread innovations in farming that enabled England to feed its growing population.[48]

Innovation in agriculture consisted mainly of new rotations of crops, the management of pastures, selective breeding and the keeping of more livestock. Such innovations were rarely amenable to patenting or presented problems of enforcement that made a patent a poor investment. Patents could really only be taken out on mechanical inventions since an innovator could not patent turnips, clover, new ploughing techniques or many other technical advances that increased agricultural output.After

[48] *Idem., Inventing the industrial revolution*, p. 98.

1721, three patents were taken out for fertilizers and one for swine-feed. It is difficult to envisage how the patentees expected to exploit them at a time when such materials were produced on the farm and not commercially supplied. In fact, one patentee, Thomas Livelings finding no profit in his four-year old patent offered to renounce it for a parliamentary reward, presenting his offer in the guise of philanthropy: 'for the national advantage upon having such reasonable allowance as the House shall think fit.'[49] Jethro Tull, rather than attempt to patent his new farming methods, secured copyright in his exposition of them. He had fourteen years sole printing and publishing rights to *The Horse-hoeing Husbandry*.[50] In 1797, Charles Baker, a Bristol seedsman, used the device of copyright in limited edition to market his 'method to prevent the smut in wheat'. He sold these at a guinea a copy and also offered a thirty guinea reward for information on anyone using it without prior purchase of the tract.[51]

Agricultural implements were generally more suitable for patenting than were farming techniques. Yet, very few were patented during the eighteenth century.[52] It was often difficult to enforce a patent on an agricultural implement as was illustrated by Stanyforth's case. Joseph Foljambe, the inventor of the Rotherham plough, had assigned his patent rights to his partner, Disney Stanyforth. In 1741, Stanyforth's widow took legal action against William and John Bashforth, alledging that they were producing ploughs in imitation of hers.[53] The following year, she prosecuted sixteen farmers for using the imitation ploughs. The verdict went against Mary Stanyforth and she was ordered to pay costs. Her husband had apparently tolerated infringements, collecting modest annual sums for the use of the plough - eight shillings was mentioned by one defendant - and presumably taken some premium from the

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[49] Patent 506 (1729); *J. H. of C.*, 22 (1732-7), p. 121.

[50] G.E. Fussell, *More old English Farming books from Tull to the Board of Agriculture, 1731-1793* (1950), pp. 1–4.

[51] C. Baker, *Treatise for the preventing of the smut in wheat* (Bristol: 1797). The Bath and West Society purchased a copy of this tract for its library.

[52] To this date, five patents for agricultural implements had been taken out for two ploughs, a threshing and winnowing machine, a machine to clean clover seed and a hop-bagging machine.

[53] Patent 518 (1730); P.R.O. E134. 14 Geo II, Easter no. 7, Yorks. Macleod, *Inventing the industrial revolution*, pp. 67-8.

ploughwrights he licensed to produce it. Despite infringements, the business had flourished in the twelve years since the patent was taken out.[54]

This case also illustrates the lack of any clear definition of what constituted an 'invention' and what constituted merely an 'improvement'. In order to be patentable, an invention had to be novel. The defendants all argued that all ploughs must necessarily imitate one another in order to perform their function. So the Rotherham plough could be no more than an improvement on other ploughs. As a result, the patent was revoked on the grounds that it was only an improvement and the decree concluded that the patent plough 'was not substantially and absolutely a new invention but barely and only a small additional improvement on an old invention, such as was frequently made on many other utensils in husbandry.'[55] Thus, patenting was also ruled out for agricultural implements because their development often involved slight adjustments, small changes and minor improvements that were not dramatic enough to qualify for patent protection. Consequently, while there was a craze for devising new seed-drills, ploughs and other implements, very few were patented.

Thus, the systematic exploitation of patents for agricultural implements during the late eighteenth century was neither automatic nor widespread. William Marshall mentioned an unpatented plough invented by a Warwickshire wheelwright named Bush around 1770. By 1786, it was immensely successful and Bush was still the leading maker. However, all the principal ploughwrights in the area were making it too.[56] Patents were also hard to enforce as Andrew Meikle found with his 1788 patent for his threshing machine.[57] Henry Baldwin of Suffolk was dissuaded from patenting his improvements to Cooke's seed-drill by one of Arthur Young's correspondents 'as

[54] Macleod suggests that it was 'perhaps the coincidence of her widowhood with the patent's imminent expiry that prompted the attempt to recoup some of these losses at law.' *Ibid.*, p. 66.

[55] P.R.O. E126.27 Mich. 1743, no. 6. Quoted *ibid.*, p. 67.

[56] W. Marshall, *Rural Economy of the Midland Counties, Vol. 1* (1796), p. 106.

[57] Fussell, *Farmers' tools*, pp. 156-7; Samuel Smiles, *Lives of the Engineers*, L.T.C. Rolt (Ed.), Vol. 2, (Newton Abbot: 1968), pp. 109-11; S. Macdonald, 'Progress of the early threshing machine' *Agric. Hist. Rev.* **23**(1975), p. 66.

he thought that any monopoly of useful machines must be of general disservice to the community, and that it might possibly turn the attention of a good farmer from a good farm.'[58]

In general, innovative activity in agriculture during the eighteenth century tended to take place outside the purview of the patent system. Agricultural innovation was often carried out by gentlemen farmers informed by ideals of the gentlemen-amateur tradition which enjoined the sharing and publication of information.[59] James Small, motivated by such an ethic of open communication freely published his methods of plough construction.[60] The agricultural societies were also fundamentally opposed to the patent system. An interesting but somewhat far-fetched idea put forward by Boehm and Silberston is that the Society of Arts 'was established *largely* for the purpose of abolishing the patent system and replacing it with a system of private inventors' rewards'.[61] To this end, even though it did not succeed in getting rid of the patent system in its entirety, the Society played a key role in pressing for patent reform in the 1840s. Even though the 'no-patents' clause ' prevented patented inventions from competing for premiums, it did not prevent the societies from recommending these inventions at their meetings and in their journals. For example, the Revd James Cooke's Patent Drill-Machine was generally acknowledged as the best in its time and the Bath and West recommended the use of this implement in their *Letters and Papers*.[62]

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[58] Quoted in *V.C.H.*, Suffolk, 2 p. 282. At least a hundred of Baldwin's drills are known to have been made and sold betwen 1792 and 1804. Fussell, *Farmers' tools*, p. 105.

[59] J.A. Ransome, *The Implements of Agriculture* (1843), pp. 154-5.

[60] *A Treatise on Ploughs and Wheel Carriages* (Edinburgh: 1784); Fussell, *Farmer's tools*, pp. 99-104. A seventeenth century antecedent of this ethic was the Hartlib circle: 'Visitors to Samuel Hartlib's house and correspondents were all given the same sympathetic hearing, and their ideas and problems were freely discussed with the next visitor. In this circle of men the secretive spirit was fiercely denounced. Advances could be made only if men gave their knowledge freely. Hence they all exchanged books, invited each other to view their farms and fields, and explained their failures to one another as frankly as their successes.' Thirsk, 'Agricultural innovations', p. 548.

[61] Emphasis added. Boehm and Silberston, *Patent system*, p. 26.

[62] 3 (1786), p. 262. The implement-making trade was so profitable that the Revd James Cooke gave up the cloth, moved from Lancashire to London to set up his own business making and selling his

The situation with agricultural patenting changed during the mid-ninetenth century especially with the arrival of the specialist implement-making firms. These usually evolved from blacksmiths or iron-founders. There was James Small in Berwickshire; James Sharp in London; Garrett's and Ransome's in Suffolk respectively. In contrast to the 'amateur' inventor of the late eighteenth and early nineteenth centuries who experimented and invented for the public benefit, the mid-nineteenth century saw the rise of the 'professional inventor' who was increasingly spurred on by the financial exploitation of their inventions. As Robert Fulton, the American famous for his role in steam navigation, advised Edmund Cartwright in 1791 'if you could sell the invention for a reasonable sum, I should think it advisable. My idea of many of those things, which may be considered as only the *overflowings of your mind*, is to convert them into cash.'[63] A correspondent to the *Farmers' Magazine* in 1856 recounts the occasion when Talpa was expounding the principles of applying steam power to tillage to Mr Greening:

> ...the worthy farmer exclaims - 'Why, you'll be quite an inventor! It's just like Columbus, as discovered America. You ought to take a *pattern* out, sir.'
> 'Did Columbus *take out a patent*, Greening?'
> 'Oh my! that's capital - a pattern for America! Well, that *is* a good'un, however. No, no! I guess his diskivery was a little too big for a pattern - "Wide as a world and broad as 'umanity," as our parson says. No, no! he died quite the wrong side o' money-making now I think of it.[64]

It was also during this period that the emphasis on 'for the public benefit' started slipping into the background:

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drill, which was acknowledged as the best in its time, and other implements. J. Cooke, *Cooke's improved patent drill and horse-hoe* (1789).

[63] E. Cartwright, *A Memoir of Edmund Cartwright* K.G. Ponting (Ed.) (Bath: 1971), pp. 76, 141.

[64] 'The Abuses of the Patent Laws' *F.M.* (3) **9** (1856), p. 107.

> ...though a benevolent mind will enjoy a peculiar pleasure in communicating useful information, yet *posthumous fame* is of small value wheere a man, unpossessed of a fortune, after employing his time, his abilities, and perhaps his substance, upon some profitable discovery, can derive from it ultimately no other benefit to himself.[65]

As Macleod has pointed out, 'There was no glory to being a patentee. The purchase of a patent was a commercial transaction.'[66] This was because patents were expensive to obtain and nobody sought them without an economic end in view. The patentee's aims were to protect and exploit an invention commercially and also impress potential customers. In the case of the implement-making firms, they expected to sell their wares on a regional, even national scale and offered an ever-widening range of specialized implements with standardized replacement parts. They competed for customers not only by price but also by improved quality and technical novelty. As we have seen, the firms were not reticent about their objections to the premiums awarded at the implement trials. These specialists generally found patents more relevant than premiums because they provided protection as well as advertisement of their competitive edge.[67] Some contemporaries found this emphasis on 'money-making' distasteful:

> ....the man who enunciates a new truth and labours to achieve its demonstration to the world, ought to be inspired by a nobler motive than that of filling his pocket. Yet so incurably has the mercenary spirit insinuated itself in every field of human thought and occupation, that if one now-a-days should happen to suggest a notion that can be embodied in a scheme for making gain, some keen-witted and quick-fingered speculator will be sure to get a profit out of the proposal[68]

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[65] Goodwin, 'Thoughts on the question', p. 26.

[66] Macleod, *Inventing the industrial revolution*, p. 7.

[67] G.E. Mingay, *Arthur Young and his Times* (1975), p. 93.

[68] 'Abuses of patent laws', p. 107.

Figure 8.2 shows that agricultural patenting did not take off until the 1840s onwards. One would not go quite so far as to say that the Patent Reform Act of 1852 signalled the death-knell for the premium system but it provided agriculturists with a viable alternative reward system to the by then unpopular premium system. Furthermore, the increasing professionalization of the agricultural 'industry' meant that patents were more a suitable form of protection for their wares than premiums were. As a result, the number of agricultural patents taken out from the mid-nineteenth century continued to increase.

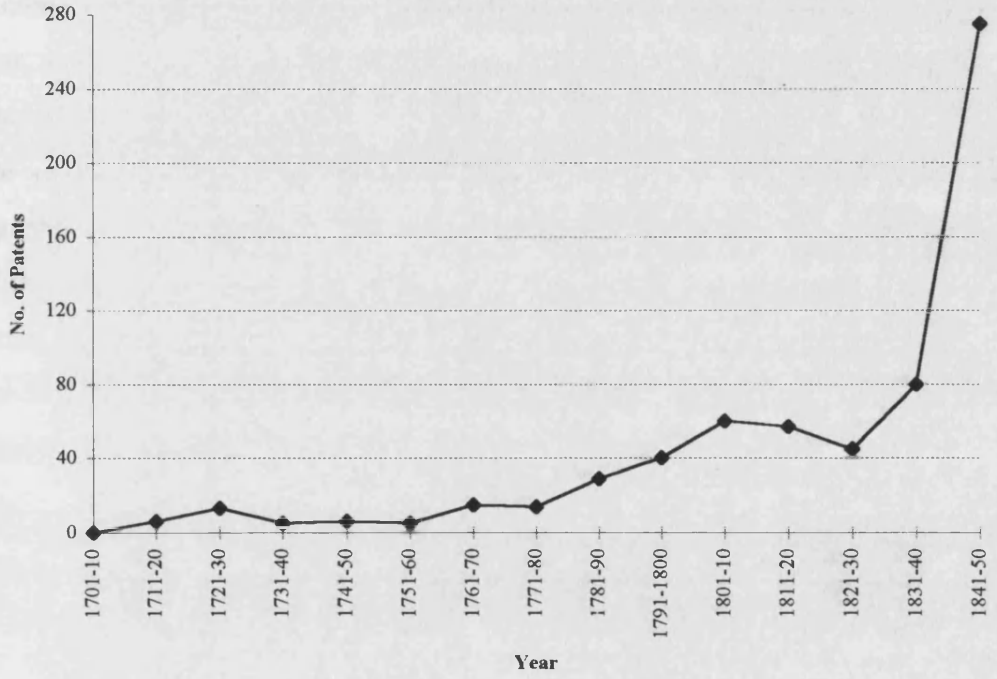


Figure 8.1 : Agricultural Patents Issued, 1701-1850.
Source : R.J. Sullivan, 'Measurement of English Farming Technological Change, 1523-1900' *Expns Ec. Hist.* **21** (1984).

From the eighteenth century onwards, there was a growing awareness that if inventors were unable to capture the rewards of diffusion, they had little monetary incentive to communicate their discoveries. By communicating their discoveries, they were actually giving their secrets away for free. At this time, there existed two methods for rewarding invention and encouraging further innovation: the premium system and patent system. The rival merits of both systems were fiercely debated from this period right through to the middle the nineteenth century. In agricultural innovation, it has been argued that before the reform of the patent system in 1852, premiums were more useful than patents for fostering agricultural innovation. This was a period when the 'amateur' innovators took the lead in such activities. The Patent Law Amendment Act of 1852, the result of many years of agitation throughout the country for drastic reform of patent laws that was brought to a head by the opening of the Great Exhibition, greatly simplified the procedures and costs for obtaining a patent. This coincided with an expansion in the number of 'specialist' firms for implements, manures, and seeds which in turn contributed to the increasing 'professionalization' of agriculture. The transition from 'amateur' to 'professional' meant that the latter found patents more suited to their commercial activities and this partly explains the declining popularity of premiums and the increase in agricultural patenting.

9. CONCLUSION

The premium system has played a small part in world developments within the scope of the history of technology. But in relation to the particular needs of the British agricultural industry in the eighteenth and nineteenth centuries, it played a crucial role in encouraging innovation so that it deserves much of the credit for the rapidity of the transformation whereby Britain became the First Industrial Nation in the world. For this reason it is important to understand the way in which the premium system came to be a dynamic component of growth in British agriculture, as well as the reasons for its success and its eventual decline. This thesis has traced the course of the premium system and found that for the best part of the period under consideration, premiums were used as the main way of fostering innovative behaviour in agriculture.

This thesis has also been a detailed study of the role of the agricultural societies in the development of English agriculture in the eighteenth and nineteenth centuries. It has been demonstrated that the societies sought to encourage agricultural innovation in the activities they pursued, with varying success, and on the whole, contributed to the overall changes that amounted to an Agricultural Revolution. Agricultural advance during the eighteenth and nineteenth centuries was closely associated with changes in organization, methods of production and the acceptance of a variety of mechanical innovations. In the writings of contemporary experts like Arthur Young, Nathaniel Kent and William Marshall, we know that innovation was in the air and that many technical improvements were being adopted by the better farmers. It is possible that such changes would have taken place without the existence of the agricultural societies, but they were an important catalyst in the process of change. The significant achievements of the societies and the premium system which they employed were that they stimulated an interest in agricultural progress, diffused information and, most importantly, engendered an environment that was receptive to innovation.

Innovation is a complex activity and it certainly would be over-simplistic to assume that it took place in a straight-forward, linear progressive manner during the

Agricultural Revolution and that farmers readily adopted new practices advocated by either their landlords or the societies. Innovation involved much experiment and the adoption of improved methods was often stubbornly resisted by farmers and agricultural labourers. New practices were not necessarily seen as desirable or beneficial by the eighteenth or nineteenth century farmer. This could have been due to inadequate methods of communication, or the individual farmer's obstinacy to change or because the agricultural innovations themselves were found wanting. For every innovation that found moderate success, there were hundreds that never got off the ground. The agricultural literature of this period was packed with numerous ideas for new machines, new rotations, new methods of land use - the majority of which came to nothing. With the benefit of hindsight, the historian is able to distinguish the successful ideas from the unsuccessful ones but the contemporary farmer could not know. This is where the agricultural societies stepped in. They tried to establish the good practices from the bad and to urge farmers to adopt these progressive methods by offering premiums for experiments; by encouraging the record of results; by rewarding such innovative behaviour; by disseminating the results of experiments; and by setting standards of excellence.

The background to the establishment of the agricultural societies lay in the limitation of the powers of the state during the late seventeenth and early eighteenth century and consequently, the growing freedom for persons with similar interests to associate together. One could say that the formation of the early improving institutions was the result of an initial period of experimentation with this new-found liberty. Coupled with social and economic imperatives such as a growing population, societies for the improvement of agriculture were established from the mid-eighteenth century onwards. These flowered in the nineteenth century and reached even the remotest parts of the land by 1870. The primary function of these societies was the award of premiums for agricultural innovation.

The premium system was itself an innovation. First instituted by the Society of Arts in the mid-eighteenth century, it was practised by even the smallest agricultural society in the far-flung corners of England in the nineteenth century. The idea of

offering and awarding prizes was not itself a new one, but its originality lay in William Shipley's brainwave of creating a formal premium system. He recognized that people generally needed some form of encouragement to innovate and those who did ought to be rewarded. Although the Society of Arts was not established for the sole purpose of fostering agricultural improvement, agriculture was one of its top priorities throughout the eighteenth century and remained so until the 1820s. The popularity of the premium system lay in its philosophy so eloquently expressed by its originator, Shipley: 'Profit and honour are two sharp spurs, which quicken invention and animate application.'

The suitability of premiums for fostering agricultural improvement was recognized and adopted by the early agricultural societies. The premium system was extremely versatile in its operation and appealed to farmers across the social spectrum. Pecuniary, or monetary, premiums were the eighteenth-century equivalent to the modern-day research grant or subsidy. Without such financial encouragement, few ordinary farmers would have been inclined to experiment with new crops, techniques and machinery. To men of high social standing, the monetary value of premiums was not important since they did not need the money. Instead they had a special interest in the public recognition of their efforts towards agricultural improvement through honorary premiums. The award of premiums was an important event and the presentation always took place at a special distribution ceremony, usually in conjunction with the Annual Meeting. The social acclaim attached to receiving a premium from an agricultural society was an important factor that increased the value of honorary premiums.

Despite the dominance of the older, more established, patent system in industry, the premium system was considered far superior in all matters agricultural. This was because the premium system embodied the ideals of a gentlemanly ethos which expounded the virtues of encouraging improvement and promoting the free communication of new ideas. As the societies were founded by individuals informed by such an ethic, virtually all the societies had some form of rule or proviso that prevented patented inventions from entering their premium competitions.

Furthermore, the nature of agricultural development depended heavily on incremental and systematic innovation. Improvements often involved minor adjustments to existing techniques and technologies for example, in the shape of a plough mould-board or changes in the timing and sequence of farming operations. In this respect, premiums were extremely useful for rewarding small improvements and effort towards improvement in a way that the patent system, with its emphasis on originality and novelty, could not do. For a long time, premiums were held in such high esteem that even during the mid-nineteenth century controversy over premiums awarded at implement trials and stock exhibitions, the integrity of the premium system itself was never questioned by the societies. Amidst calls for its abolition by the wider agricultural community, the societies were tenacious in their efforts to preserve it. After a long struggle - a process which lasted well over three decades - the societies eventually accepted wider agricultural opinion and the premium system was drastically limited.

It has been demonstrated in this study that the majority of premium competitors and winners tended to be limited to a few individuals or firms year after year. Such participation patterns may lead one to conclude hastily that in the years of its operation, the premium system failed to reach a large part of the farming community and thus was largely ineffective. Yet premiums played a vital role in generating interest and drawing attention to the latest ideas, methods and implements in agriculture. This in turn encouraged farmers to experiment, to try new practices, and generally contributed to the flowering of an 'improving spirit'. The peripatetic shows were mass spectacles, so the societies were able to appeal to a wider section of the farming community. Farmers visiting the shows could view a wide range of premium-winning livestock and implements. Thus, the significance of the premium system lay in its ability to set certain standards of practice for others to follow. In this respect, an examination of the societies' prize-lists alone will not reveal this broader, indirect influence premiums had on the agricultural population at large.

This thesis has concentrated on the development of three 'case study' societies - that is, the Society of Arts, the Bath and West Society and the RAS. In particular, the

findings have shown how specific societies functioned. In general, they have formed the basis of a wider survey of agricultural societies in the country and allowed certain conclusions to be drawn about the significance of these institutions. Individuals who have been singled out for mention in this study also represent the countless others of their generation who were involved with agricultural societies throughout the country. Pioneers like William Shipley and Edmund Rack were products of their time, driven by patriotic zeal to make England self-sufficient, and by ideas of the Enlightenment such as the progress of human knowledge, rationality, wealth, civilization and control over nature. The enthusiasm for agricultural improvement during the second period (1830s onwards) originated from a core group of scientifically-inclined individuals interested in the application of science to agriculture. This group included men like the third Earl Spencer, H.S. Thompson, Thomas Dyke Acland, and Philip Pusey.

In the twentieth century, when the state provides much of the directive in agricultural research, it is easy to assume that things have always been like this. But during the eighteenth and nineteenth centuries, such direction came from the private-funded, voluntary agricultural societies. Thus, the societies were also socially significant as bodies of landowners who represented private action for what they believed to be the public good. The societies tended to be established whenever and wherever the need for them was perceived. It is interesting to note that this *perceived need* to a large extent depended on two factors: *crisis* and *fashion*. Agricultural societies, like that of other voluntary societies at the time, were generally established during times of crisis (for example, during the Napoleonic Wars or under the threat of a population explosion) and the formation of one society usually led to the formation of others (for example, Edmund Rack got his idea of setting up the Bath and West from other 'societies of this kind in London, Norwich, Manchester, &c.'). Generally, the development of these societies was itself a learning process. One gets the picture of the societies feeling their way forward, learning by experience, working out their role in the agricultural community and establishing their prioritites in aiming to achieve success.

The proliferation of agricultural societies throughout the eighteenth and nineteenth centuries illustrates the *motivation* for agricultural advance and the *belief* that they could convince farmers to adopt progressive husbandry. Their attitude and work is best summarized in a quote from Benjamin Franklin:

> To get...bad customs...changed and new ones, though better, introduced, it is necessary first to remove the prejudices of the people, enlighten ignorance, and convince them that their interests will be promoted by the proposed changes; and this is not the work of a day.

During the period under study (1754-1870), the agricultural societies were the formal channels for the diffusion of agricultural information. They were established to break down the barriers of isolation that, by the nature of the occupation, keep farmers on their own. Usually the result of the initiative of the most progressive and enquiring farmers in the district, they subsequently influenced many who would otherwise not have gone out of their way to seek new strains of stock, fresh developments in technology, or the improved treatment of land. They were an important source of information about such innovations. Provincial societies such as the Bath and West and the Royal Yorkshire served as starting points for the foundation of local societies serving the interests of farmers in the neighbourhood of a single town (or the region) rather than the country at large. Somewhat different were the farmers' clubs which served as a forum for the discussion of all matters of importance to the farming interest. Actual membership of a society was, however, far from universal among the farming community, Even the smaller societies attracted a considerable number of the upper classes and town dwellers. The activities of local societies were, for the most part, more modest than those of the provincial associations. Their shows were intended to foster the virtues of conscientious labour (through the award of premiums) rather than to display prize livestock or the latest advances in agricultural engineering. Even so, the implement manufacturers were still encouraged to exhibit at the modest ploughing matches and flower shows of these societies.

The agricultural societies were energetic organizations trying to reach the widest possible audience. Two ways in which the agricultural societies *did* have important influence were through their shows and through the report on their activities published in the local newspaper press. While there is no easy means of discovering whether societies were, as a consequence, more important as sources of information about innovation than the simple example of neighbours, it seems likely that the societies and the media which communicated information about their activities served as a highly significant means of broadening the information fields of the farming community. By the time of the peripatetic agricultural shows, the railway age was firmly established and both exhibitors and spectators could travel long distances to the show venues in comparative ease. By being exposed to such innovation, farmers had their eyes opened and saw possibilities and ways to improvement. The agricultural journals were also an important means of communication. Without doubt, the results the agricultural societies derived varied from area to area and region to region since needs and opportunities varied in different parts of the country. But everywhere, the societies functioned as centres of agricultural knowledge and stimulus and worked hard to overcome the conservatism of the labourers and working farmers and the indifference of the landowners.

In conclusion, British agricultural societies of the eighteenth and nineteenth centuries provide a fertile field for historical study, particularly for studies concerned with the growth of scientific farming, agricultural research and the development of state-directed agricultural development. Much can also be learned about social attitudes towards trade, profit, businesses, innovation and labour productivity by detailed investigations into the records of the gentlemanly agricultural organizations of England's small towns. Studies of individual societies are particularly useful in illustrating the agricultural improvement of a given district or region and emphasize the changing priorities of the area.

Whilst this study has concentrated on the use of premiums in agricultural innovation, the diversity of activities pursued by the societies means that different angles can be taken for research. For example, the development of an integrated railway network

after 1850 and how this assisted the societies in their transmission of information. There is also scope for future research into the use of premiums in other areas of industry, perhaps even a companion study into the sort of incentives that existed for industrial development during the Industrial Revolution. The evolution of reward systems for excellence in agriculture, industry and the arts in the twentieth century would also be particularly interesting. The operation of the premium system would also make a useful starting point for theoretical discussions about the nature of inventive activity. Numerous commentators have offered their explanations of inventive activity. Those who concern themselves with the issue of human inventiveness often find themselves impelled to believe that human beings are fundamentally creative, or that they are not. Contemporary support for premiums meant that people obviously believed that invention and innovation were activities that could be stimulated. This study has endeavoured to establish the significance of these agricultural societies and the premium system and to incorporate them within the existing literature on the Agricultural Revolution and general economic, social and industrial British history.

APPENDIX 1:

Agricultural Societies in England and Wales to 1870

Source : Agriculturist, 2 January 1836; B.W., *Letters and Papers* 7 (1810); J.L Hall, *Let Agriculture Flourish: the Diffusion of New Ideas among Agricultural Improvers in Richmondshire, 1815-1870* unpublished MA thesis (Univ. Leicester: 1979).

Note : The following lists records every agricultural society discovered during the course of research for this study. For some, only one mention was found, because of the ephemeral nature of the organization, the paucity of records surviving or the constraints of time for research. The list aims to be as comprehensive as possible but cannot claim to be complete. The date of foundation is given where available.

Arundel
Ashby de la Zouch
Banbury
Barnard Castle (1798)
Barden (1860)
Barton-upon-Humber
Bath and West (1777)
Bedale (1860)
Bedfordshire
Berkshire
Beverley
Board of Agriculture (1793)
Boroughbridge
Boston
Bowes (1869)
Brecknockshire (1755)
Bridlington
Brigg
Bristol
Bruton
Bucks Royal
Burlington
Caenarvonshire
Cambridgeshire and Isle of Ely
Cardiganshire
Carmarthenshire
Catterick (1840)
Chelmsford
Chesterfield
Chippenham
Christchurch
Cirencester
Cleveland
Colchester
Cordilleras (1809)
Cork
Cornwall
Craven (1813)
Derby West
Derbyshire
Devon County
Devon South
Doncaster
Dorset
Drayton
Driffield
Durham
East Witton (1840)
Epping
Essex
Faversham Farmers' Club
Frome District
Glamorganshire
Gloucestershire
Goole
Grantham
Harleston
Hedon
Herefordshire
Hertfordshire
Hinksford
Holderness
Horncastle
Howden
Ipswich
Isle of Sheppey
Kent
Kent, East
Kent, Mid
Kent, West
Kesteven
Lancashire (1767)
Leicester and Rutlandshire
Leicestershire
Lewes
Leyburn (1839)
Lincolnshire
Liverpool
London Farmers' Club (1842)
London Society of Arts (1754)

Louth
Malling
Malton
Manchester including Cheshire
Market Harborough
Market Rasen
Masham (1859)
Netherby
Newark
Newbury
Newcastle
Newcastle-under-Lyme
Norfolk
North Yorkshire
Northamptonshire
Northumberland (1826)
Oswestry
Pembrokeshire
Penlynn and Endernion
Petersfield
Pocklington
Preston
Reeth (1836)
Richmondshire (1777-1800)
Richmondshire (1836)
Ripley (1848)
Ripon (1860)
Romford
Royal Agricultural Society (1838)
Rutlandshire
Rye
Saffordshire
Saffron Walden
Scarborough
Selby
Sevenoaks
Sherburne
Shropshire
Smithfield Club (1799)
Sniffnall
Spilsby
Staffordshire
Suffolk, East
Suffolk, South
Surrey
Sussex
Tankerville Annual Show
Taunton and West Somerset
Tendring Hundred
Thirsk
Thorn
Tyneside
Waltham
Warwickshire (1831)
Wensleydale (1843)
Wetherby
Wharfedale (1810)
Whittingdon
Whittingham
Wiltshire
Wincanton
Woburn
Workington
Wynnstay, Denbigshire
Wyveliscombe
Yeovil
York (1770-85)
Yorkshire (1837)

APPENDIX 2

PROPOSALS

For raising by subscription a fund to be distributed in PREMIUMS for the promoting of improvements in the LIBERAL ARTS AND SCIENCES , MANUFACTURES, &c.

Source: W. Shipley, quoted in T. Mortimer, *Concise Account*, pp. 9-12.

As riches are acknowledged to be the strength, Arts and Sciences, may justly be esteemed the ornaments of nations. Few kingdoms have ever been formidable without one, or illustrious without the other; or very considerable without both. - Does it not then behove every nation to cultivate and promote amongst the members of her own community, what are so apparently and eminently conducive to her interest and glory? Encouragement is much the same to Arts and Sciences as culture is to Vegetables: they always advance and flourish in proportion to the rewards they acquire and the honours they obtain. - The Augustan age amongst the Romans, and some preceding ages amongst the Greeks, were remarkable for the delicacy of their taste and the nobleness of their productions; they have recommended and endeared themselves to all posterity by many valuable monuments of genius and industry. None, I presume, will imagine that the men of those times were endued with natural abilities superior to the rest of mankind in former ages, or in this present time, but their abilities, originally equal rose to this superiority, by falling into a more fertile soil, and being exerted under more favourable influences. Had the same advantages been enjoyed, even in the most supine and barbarous periods, there is no doubt but genius would have shined, and industry toiled and very probably with equal success.

Profit and honour are two sharp spurs, which quicken invention, and animate application; it is therefore proposed that a scheme be set on foot for giving both these encouragements to the liberal sciences, to the polite arts, and to every useful manufactory. That with this view a fund be raised by subscription for the distribution of some suitable premium or honorary gratification for any and every work of distinguished ingenuity. That whoever shall make the most considerable progress in any branch of beneficial knowledge, or exhibit the most complete performance in any

species of mechanic skill, whoever shall contrive, improve, execute, or cause to be executed any scheme or project calculated for the honour, the embellishment, the interest, the comfort (or in time of danger, for the defence of this nation) may receive a reward suitable to the merit of his services. Such an undertaking, it is thought, may easily be established, and as easily supported, by a body of generous and public spirited persons, and it is hoped may prove an effectual means to embolden enterprise, to enlarge Science, to refine Art, to improve Manufactures, and extend our Commerce; in a word, to render Great Britain the school of instruction, as it is already the centre of traffic to the greatest part of the known world.

Northampton, 8th June 1753

APPENDIX 3

A Scheme for putting the Proposals in Execution

Source: W. Shipley, quoted in T. Mortimer, *Concise Account*, pp. 13-18.

When there is a sufficient number of Subscribers to put the scheme in execution, it is proposed that they form themselves into a body, by the name of a Society for the Encouragement of Arts, Sciences, and Manufactures in Great Britain, or by such other title as the subscribers shall agree upon.

Ladies as well as gentlemen are invited into this subscription, as there is no reason to imagine they will be behind-hand in a generous and sincere regard for the good of their country.

It is also proposed that the subscribers shall chuse from amongst themselves a president, one or two vice-presidents, a treasurer, and a secretary.

All the articles relating to the scheme may be settled by balloting, and each subscriber shall be intitled to as many votes as are in proportion to his subscription.

The premiums may be honorary and pecuniary, and adjudged in the following manner. Some time before the date fixed for that purpose, the specimens may be sent by the candidates without any name, to the secretary, who may give receipts for them, and mark each particular receipt and specimen with the same number. At the time agreed upon for adjudging the premiums, a committee being chosen, and some of the ablest judges of each particular Art, Science, or Manufacture, called in to their assistance, the performance of the several candidates may be examined, and their superior merits determine; then the persons who produce the receipts, whose numbers correspond with those of the best specimens, may afterwards claim the prizes. If a profound secrecy is previously enjoined to the competitors, in all cases that will admit of it, under the penalty of being for ever excluded the benefit of the premiums, it is thought there can be no room for prejudice or partiality.

In particular cases, as for very curious and valuable inventions or improvements, &c. gold medals may be given (which may serve both for premiums and also for honorary gratifications) of such value, and with such devices, as shall be though proper by the subscribers; but for common inventions or improvements, pecuniary premiums are judged sufficient.

There may be given with the medals, certificates signed by the president, vice-president, treasurer, and some of the principal subscribers, signifying what honours the acquirers have been intitled to, and what rewards they have obtained; therefore if a medal be got by a person, whose circumstances may oblige him to part with it, yet still a certificate will perpetuate the honour he has received.

Certificates may likewise be given with the pecuniary premiums, which will be of equal use.

If considerable premiums were given to the inventors, and still greater to the inventors, if thought worthy, and the greatest of all to those who shall most amply execute or cause to be executed, the said inventions or improvements, it may be presumed this would be attended with beneficial consequences.

Should subscriptions not be sufficient at first for so many premiums as might be wish'd; a beginning may be made with giving rewards for the following articles, or some others, that may be judged of the most important to the nation, viz.

For improvements in the present plans of education, in naval affairs, in husbandry, and particularly for the introducing of such Manufactures as may employ great numbers of the poor, which seems the only way of lessening the swarms of thieves and beggars throughout the kingdom, and relieving parishes from the burden they labour under, in maintaining their numerous poor, as well as rendering multitudes of the unemployed lower class of people useful to the community and happy in themselves.

Premiums may also be given for the revival and advancement of those Arts and Sciences which are at a low ebb amongst us; as Poetry, Painting, Tapestry, Architecture, &c. As above all other people the English are endued with talents peculiar for improvements in Arts and Manufactures, so by their most extensive commerce, they will of course reap greater advantages from such improvements, when made, than any other nation whatever.

London, 7th December 1753

APPENDIX 4

Aims of the Bath and West Society, 1777
Source: B.W., *Rules, Orders...*, (1777).

The principal object of this society's attention will be,
To excite by premiums a spirit of emulation and improvement in such parts of husbandry as seem most require it:

To endeavour to increase the annual produce of corn, by bringing into cultivation, in the least expensive and most effectual manner, such lands as are at present barren or badly cultivated, particularly by draining and manuring; and by the introduction of various sorts of vegetable food for cattle:

To promote the knowledge of agriculture by encouraging and directing regular experiments on those subjects which are of the most importance to it, by distributing rewards to such persons as shall raise the largest and best crops both of natural and artificial grasses, and the several species of grain, on any given quantity of ground:

To encourage planting on waste lands, raising of quick hedges, cultivating turnips, Scotch cabbages, &c. &c.

To promote all improvements in the various implements belonging to the farmer, and introducing such *new* ones as the experience of other counties has proved more valuable than those generally in use:

This society's attention will also be directed to all improvements of the machines used in our different manufactories, as well as the manufactures themselves; and to encourage ingenuity, diligence, and honesty, in servants and labourers:

And to sum up the whole, everything that is conducive to the prosperity of the counties of Somerset, Wilts, Gloucester, and Dorset, and the good of the community at large, will be diligently attended by this society.

APPENDIX 5

List of Officials of the Royal Society of Arts, 1754-*c.*1830

Secretaries

1754-57	William Shipley
1757-1760	George Box
1760-69	Peter Templeman, M.D.
1769-99	Samuel More
1800-16	Charles Taylor, M.D.
1817-39	Arthur Aiken

Presidents

1755-61	Viscount Folkestone
1761-93	Lord Romney
1794-1815	Duke of Norfolk
1816-43	H.R.H. Duke of Sussex

APPENDIX 6

List of Officials of the Royal Bath and West Society, 1777-c.1870

Secretaries

1777-87	Edmund Rack
1787-1800	William Matthews
1800-05	Nehemiah Bartley
1805-18	Robert Ricards
1818-49	Benjamin Leigh Lye
1849-65	Henry St J. Maule
1865-88	Josiah Goodwin

Presidents

1777-80	Earl of Ilchester	1859	Lord Rivers
1780-98	Marquis of Ailesbury	1860	James Butler, M.P.
1798-1800	Lord Somerville	1861	Thomas Dyke Acland
1800-02	1st Duke of Bedford	1862	Marquis of Bath
1802-05	2nd Duke of Bedford	1863	Earl Fortescue
1805-17	Sir Benjamin Hobhouse	1864	Lord Taunton
1817-47	Marquis of Lansdowne	1865	Earl of Portsmouth
1847-54[1]	Lord Portman	1866	John Tremayne
1854	Earl Fortescue	1867	Sir J.T.B. Duckworth
1855	C.A. Moody, M.P.	1868	Earl of Carnarvon
1856-7	Lord Courtenay	1869	Sir Stafford H. Northcote, M.P.
1858	John Sillifant	1870	Earl of Cork and Orrey

[1]The new system of holding the Annual Meeting at the Summer Show, instead of in December, began in 1852. From then on, Presidents were elected annually and their tenure ran from October.

APPENDIX 7

List of Officials of the Royal Agricultural Society, 1838-*c.*1870

Secretaries

1838-39	William Shaw
1839-59	James Hudson
1859-68	H. Hall Dare
1868-87	H.M. Jenkins

Presidents

1839	3rd Earl Spencer	1856	1st Viscount Portman
1840	5th Duke of Richmond	1857	Viscount Ossington
1841	Philip Pusey	1858	6th Lord Berners
1842	Henry Handley, M.P.	1859	7th Duke of Malborough
1843	4th Earl of Hardwicke	1860	5th Lord Walsingham
1844	3rd Earl Spencer	1861	3rd Earl of Powis
1845	5th Duke of Richmond	1862	{ HRH The Prince Consort
1846	1st Viscount Portman		1st Viscount Portman
1847	6th Earl of Egmont	1863	Viscount Eversley
1848	2nd Earl of Yarborough	1864	2nd Lord Feversham
1849	3rd Earl of Chichester	1865	Sir E.C. Kerrison, Bart., M.P.
1850	4th Marquis of Downshire	1866	1st Lord Tredeger
1851	5th Duke of Richmond	1867	H.S. Thompson, M.P.
1852	2nd Earl of Ducie	1868	6th Duke of Richmond
1853	2nd Lord Ashburton	1869	HRH The Prince of Wales
1854	Philip Pusey	1870	7th Duke of Devonshire
1855	William Miles, M.P.		

APPENDIX 8

Winners of the Society of Arts' Madder Premiums, 1755-75

Source: R. Dossie, *Memoirs of Agriculture, 1* (1768); *Premiums Offered by the Society for the Encouragement...*(1775).

Year/ Winners	1755	1758	1759	1761	1763	1764	1765	1767	1768	1771	1772	1773	1774	1775	No. of Wins	Amount
Mr John Thorp	£30				£22 10s		£5								3	£57 10s
Mr Nic. Crisp		£20													1	£20
Mr Samuel Shaw		£16	£20												2	£36
Mr John Rose		£10													1	£10
Mr John Suter		£8	£26				£10								3	£44
Mr Brownton			£8												1	£8
William Kemp and John Lane				£50	£145	£35									3	£230
*John Cooke					£5		£10								2	£15
William Trevillian, esq.					£5										1	£5
Mr William Wilcocks					£15										1	£15
Mr William Fariman					£5			£5							2	£10
Rev. Mr John Barber					£15		£10								2	£25
Mr John Simmons					£5	£10	£10								3	£25
Mr John Harrison					£5		£20	£5	£65						4	£95
William Hutchins, esq.					£50	£10	£75	£40							4	£175
Mess Humphrey and Vinal					£5										1	£5
Rev. Mr John Peel					£5	£5	£5								3	£15
Mr Wm. Pickering					£5										1	£5
Mr James Cole					£16 5s	£5									2	£21 5s
Daniel Colgate					£5										1	£5
Joseph Mace					£10										1	£10
*George Foster Tuffnell, esq					£30										1	£30
Mr Francis Harris						£5									1	£5

Mr John Goddard						£5									1	£5
Abraham Prebble & Jos. Royle						£75		£5							2	£80
Everard Buckworth Herne						£10									1	£10
Mr Francis Buti						£5									1	£5
Mr John Ranson						£10									1	£10
Mr Francis Crumpe						£15	£5								2	£20
Mr Jacob Patterson						£5									1	£5
Mr Joseph Flight						£5	£10	£75							3	£90
Mr John Flight						£10									1	£10
Mr William Gosse						£10									1	£10
*Arthur Young, esq.							£5	£5							2	£10
Rev. Bariah Brook							£5								1	£5
Joseph Talmin							£5								1	£5
George Payne, esq.							£5								1	£5
Mr John Lane								£7 10s							1	£7 10s
John Dutlow								£5							1	£5
Broome Witts								£5							1	£5
Thomas Parsons								£5							1	£5
Rev. Daniel Hill								£5							1	£5
James Johnson								£5							1	£5
Thomas Giles								£5							1	£5
Charles Rose								£5							1	£5
William White								£5							1	£5
John Crow											£62 3s (3)	£10	£10	£10	6	£60 10
Mr James Potter										£3					1	£3
Mr George Walker											£5 5s				1	£5
Total: 50	*£30*	*£54*	*£54*	*£50*	*£348 15s*	*£220*	*£180*	*£182 10s*	*£65*	*£3*	*£44 3s*	*£10*	*£10*	*£10*	*81*	*£1261 8s*

* Member of Society of Arts

Winners of the Bath and West Society's Agricultural Premiums, 1790-91

Source: B.W. *Rules, Orders...*(1791-1800).

Year Winners	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799	No. of Wins	Amount
Mr Joseph Holbrook	£5 5s						£5 5s				2	£10 10s
*Mr John Thomas	£4 4s										1	£4 4s
*William Dyke	£16 16s (2)	£5 5s			£6 6s						4	£28 7s
*Mr Charles Fitchew	£5 5s		£5 5s								2	£10 10s
*Mr Joseph Wimpey	£10 10s										1	£10 10s
*John Billingsley, esq.		£10 10s		£21					£4 4s		3	£35 14s
*Mr Thomas Lewis		£5 5s									1	£5 5s
Mr William Atwood		£3 3s									1	£3 3s
*Mr J. Morse		£5 5s									1	£5 5s
Mr Robert Davies			£5 5s								1	£5 5s
*Rev. Mr Broughton			£5 5s		£5 5s	£5 5s	£5 5s	£5 5s			5	£26 5s
*Mr Thomas Davis			£10 10s (2)		£10 10s						3	£21
*Joseph Meghell			£10 10s								1	£10 10s
*Mr John Gale			£5 5s								1	£5 5s
Mr Moxham				£5 5s							1	£5 5s
Mr Powell				£5 5s							1	£5 5s
*Mr White					£21						1	£21
*Dr Fothergill					£5 5s						1	£58
*Marquis of Bath						£21					1	£21
*Mr John Jeanes						£21	£10 10s				2	£31
*Richard Bright						£5 5s					1	£5 5s
*Dr Parry						£3 3s		£3 3s	£5 5s	£10 10s	4	£21 1s
*Duke of Bedford							£5 5s				1	£5 5

*John White Parsons							£15 15s (2)		£5 5s	£10 10s (2)	5	£31 10s
*William Whitaker							£3		£5 5s		2	£8 3s
*Rev. Will. Quartley							£10 10s				1	£10 10s
John Hoskins, labourer							£3 3s				1	£3 3s
*John Axford								£10			1	£10
*J.G. Everett								£15 (2)			2	£15
*Mr John Bridge								£5 5s	£5 5g	£5 5s	3	£15 15s
*George Webb Hall								£10 (2)		£5 5s	3	£15 5s
*Mr Crook								£10 5s (2)	£10 10s (2)	£15 15s (2)	6	£36 10s
*T.W Coke								£5			1	£5
Mr Moger								£5			1	£5
Mr Highett								£20			1	£5
Mr Exter								£10 10s			1	£10 10s
Rev. Mr Gapper									£6 6s		1	£6 6s
Mr Derrick									£2 2s		1	£2 2s
Mr Lindon									£5 5s		1	£5 5s
Mr Bishop									£5 5s		1	£5 5s
F.E. Whalley										£3 3s	1	
Mr William Smith										£10 10s (2)	2	£10 10s
Ed Ludlow										£5 5s	1	
Total: 43	***£42***	***£29 8s***	***£42***	***£31 10***	***£48 6***	***£42***	***£58 13***	***£99 8***	***£54 12***	***£66 3***	***77***	***£516***

* Members of the Bath and West Society

Winners of the Royal Agricultural Society's Livestock Premiums, 1839-47

Source: *F.M.* (2) **16** (1847).

Year	1839	1840	1841	1842	1843	1844	1845	1846	1847	No. of Wins	Amount
Charles Large	£65 (3)	£60 (2)	£40 (2)	£65 (4)	£10	£45 (2)	£25 (2)	£45 (2)	£75 (4)	22	£430
Mr G. Turner		£25 (2)	£20 (2)		£70 (4)	£60 (3)	£40 (4)	£75 (3)		18	£290
E. Smith		£5	£35 (2)	£10	£80 (4)	£25 (2)	£20 (2)	£10		17	£185
J. Webb		£15 (2)	£75 (3)	£45 (2)	£60 (3)	£30	£30	£75 (3)	£45 (2)	17	£375
Mr W.B. Nugent				£20 (2)		£15	£55 (4)	£70 (5)		12	£160
W.F. Hobbs		£10			£20 (2)	£10	£20 (2)	£10	£30 (3)	10	£100
Duke of Richmond		£30			£5	£25 (2)	£55 (3)	£25 (2)		9	£140
J. Walker	£10		£30 (2)	£10	£25 (2)	£10				7	£85
J.N. Carpenter						£40 (2)	£30 (2)	£40 (3)		7	£110
Mr T. Bates	£70 (4)	£25 (2)	£30							7	£125
E. Handy						£30	£60 (2)	£45 (2)	£15	6	£150
E.G. Barnard, M.P.		£10	£10	£20 (2)	£30				£5	6	£75
J. Booth			£30 (2)	£15		£15		£15	£15	6	£90
J. Putland	£15	£65 (5)								6	£80
S. Bennett	£30	£30	£15	£45 (2)			£15			6	£135
T.E. Pawlett						£60 (3)	£30		£45 (2)	6	£135
M. Cartwright					£10		£10		£30 (3)	5	£50
S. Grantham	£30		£15	£30		£15	£15			5	£105
**T. Umbers	£5	£15	£25 (2)		£15					5	£60
T.W. Fouracre							£30	£40 (3)	£10	5	£80
Duke of Bukingham					£10	£10			£20 (2)	4	£40
J. Forrest			£10	£15	£15		£15			4	£55
*J. Harris	£15			£15					£45 (2)	4	£75

J. Quartley				£25 (2)			£35 (2)			4	£60
J.B. Stanhope							£45 (2)	£20 (2)		4	£65
M. Paull	£65 (4)									4	£65
Mr T. Jeffries	£30				£55 (3)					4	£85
Mr T.A. Pawlett		£35 (2)			£45 (2)					4	£80
R. Booth						£10		£15	£20 (2)	4	£45
S. Webb			£15 (2)	£10	£10					4	£35
Sir H. Hoskyns		£30 (2)	£25 (2)							4	£55
T. Inskip	£15	£10	£15 (2)							4	£40
*Viscount Hill							£45 (4)			4	£45
*D. Barclay, M.P.						£5	£5		£5	3	£15
Duke of Manchester									£40 (3)	3	£40
*J. Hewer	£20 (2)		£15							3	£45
J.G. Watkins						£40 (2)	£10			3	£50
P. Pusey, M.P.					£10	£20 (2)				3	£30
R. Burgess							£45 (2)	£30		3	£75
R. Smith								£15	£35 (2)	3	£50
R.M. Jaques		£30 (2)		£10						3	£40
T. Bond								£25 (2)	£30	3	£55
T. Crisp	£30	£45 (2)								3	£75
T. Stephens	£10	£10		£20						3	£40
*Duke of Devonshire					£10	£15				2	£3
E. Gough							£15	£30		2	£45
E. Unwick							£30 (2)			2	£30
E. Williams								£15	£10	2	£25
*Earl Talbot			£45 (2)							2	£45
J King			£30 (2)							2	£30
J. Beaven				£5		£30				2	£35
J. Bennett		£15		£45 (2)						2	£60
J. Cooper					£20	£30				2	£50
*J. Dawson			£30 (2)							2	£30
*J. Parkinson				£30					£30	2	£60

J. Price				£35 (2)						2	£35
J. Tomlinson				£20 (2)						2	£20
J. Yeomans				£45 (2)						2	£45
James Maton	£15 (2)									2	£15
R. Hobson								£20 (2)		2	£20
R.P. Rich				£30 (2)						2	£30
Rev. C. Thompson					£10	£10				2	£20
Rev. J. Linton		£10				£5				2	£15
S. Aston									£40 (2)	2	£40
T. Crafton					£30 (2)					2	£30
T. Wells			£15	£30						2	£45
T.P Stone					£45 (2)					2	£45
W. Daniel			£10		£10					2	£20
W. Perry					£20	£30				2	£50
W.B. Cooke					£15 (2)					2	£15
T.B. Shilcock					£10					1	£10
A. Wilson								£10		1	£10
A.P. Falconer						£10				1	£10
C. Arbuthnot		£15								1	£15
C. Gibbs			£30							1	£30
C. Jackson								£10		1	£10
C. Randall							£10			1	£10
C. Walker								£15		1	£15
C.F.A. Falkner									£15	1	£15
C.H. Leigh							£20			1	£20
C.H. Webber				£15						1	£15
C.S. Lefevre	£10									1	£10
Duke of Bedford		£30								1	£30
Duke of Norfolk		£20								1	£20
E. Lakin							£10			1	£10
E. Pope									£15	1	£15
E. Pratt					£15					1	£15

E. West	£15									1	£15
Earl Radnor									£10	1	£10
Earl Spencer									£10	1	£10
Exors. W. Faulkner					£15					1	£15
F. Hewer		£10								1	£10
G. Angus								£10		1	£10
G. Brown						£15				1	£15
G. Carrington	£10									1	£10
G. Drake						£15				1	£15
G. Kirkley		£10								1	£10
Geo. Pitt									£20	1	£20
H. Watson					£10					1	£10
J. Beasley						£5				1	£5
J. Corbett									£15	1	£15
J. Davy				£10						1	£10
J. Haradine		£15								1	£15
J. Hextal					£20					1	£20
J. Higginson			£10							1	£10
J. Hole						£10				1	£10
J. House						£10				1	£10
J. King			£10							1	£10
J. Marshall								£10		1	£10
J. Thomas							£10			1	£10
J. Woolf			£10							1	£10
J.C. Etches			£10							1	£10
J.L. Brown							£10			1	£10
J.S. Bult				£30						1	£30
J.W. Peters	£15									1	£15
John Earl	£30									1	£30
Lieut.-Col. Thornhill						£10				1	£10
M. Pawlett								£15		1	£15
Marquis of Exeter	£10									1	£10

Mr Hopper								£30		1	£30
Mr Mauleverer								£10		1	£10
Mr Porter		£30								1	£30
Mr Raine								£15		1	£15
P. Morris			£30							1	£30
R. Archers	£10									1	£10
R. Hortin	£20									1	£20
R. James								£10		1	£10
R. Smallbones	£10									1	£10
Rev. C. Mordaunt				£20						1	£20
Rev. J.R. Smythes				£10						1	£10
Sir E. Kerrison		£15								1	£15
T. Alkin					£10					1	£10
T. Child				£20						1	£20
T. Dowden						£15				1	£15
T. Forrest				£15						1	£15
T. Jenner						£10				1	£10
T. Newcombe						£15				1	£15
T. Reynolds					£20	£20				1	£40
T. Sheriff							£30			1	£30
T. Wetherell								£20		1	£20
T.J. Pensam				£10						1	£10
T.L. Meire							£10			1	£10
T.M. Goodfake						£10				1	£10
W. Allat									£15	1	£15
W. Brine						£20				1	£20
W. Cother	£10									1	£10
W. Ellison			£15							1	£15
W. Foalds						£20				1	£20
W. Hayward			£10							1	£10
W. Paul		£30								1	£30
W. Sainbury					£30					1	£30

W. Sandey									£10	1	£10
W. Slater	£15									1	£15
W. Smith									£20	1	£20
W. Stace			£15							1	£15
W. Umbers									£15	1	£15
W.G. Hayter, M.P.						£15				1	£15
W.J. Calhoun						£10				1	£10
Wm Linton									£15	1	£15
Total: 164	***£580***	***£650***	***£675***	***£725***	***£760***	***£795***	***£780***	***£780***	***£700***	***418***	***£6,445***

* Won in two categories

** Won in three categories

APPENDIX 11

List of Prominent Individuals

The following list includes the profiles of the leading figures in the development of the agricultural societies and the premium system. The backgrounds of some of these individuals have already been covered in the main text of this study and the entries for these persons here consist only of a reference to the relevant pages in the text.

ACLAND, Sir Thomas Dyke (1787-1871)

Born in London on 29 March 1787 to one of the largest landowning families in Devon. He lost his seat in Parliament in 1847 after voting for the Repeal of the Corn Laws. He then studied chemistry at King's College, London, in order to demonstrate to farmers in the West Country that scientific farming could prove a better way forward than hankering after protection. He had earlier read classics at Oxford and became a Fellow of All Souls. He was one of the founder members of the RAS and won a premium from the Society for his essay on farming in the West Country which was published in the *JRASE* in 1850. In 1850, he presented the Bath and West Society with a proposal for holding a peripatetic show around the western counties. This was accepted and the first Bath and West show was held in Taunton in 1852. In 1853, he became the editor of the *JBWES* and remained so for eighteen years. Together with Chandos Wren Hoskyns and H.S. Thompson, he made up the triumvirate which ran the *JRASE* after Philip Pusey's retirement in 1854. Both he and Hoskyns withdrew from this editorship in 1858 possibly due to editorial politics. In 1861, he was President of the Bath and West.

CORBET, Henry

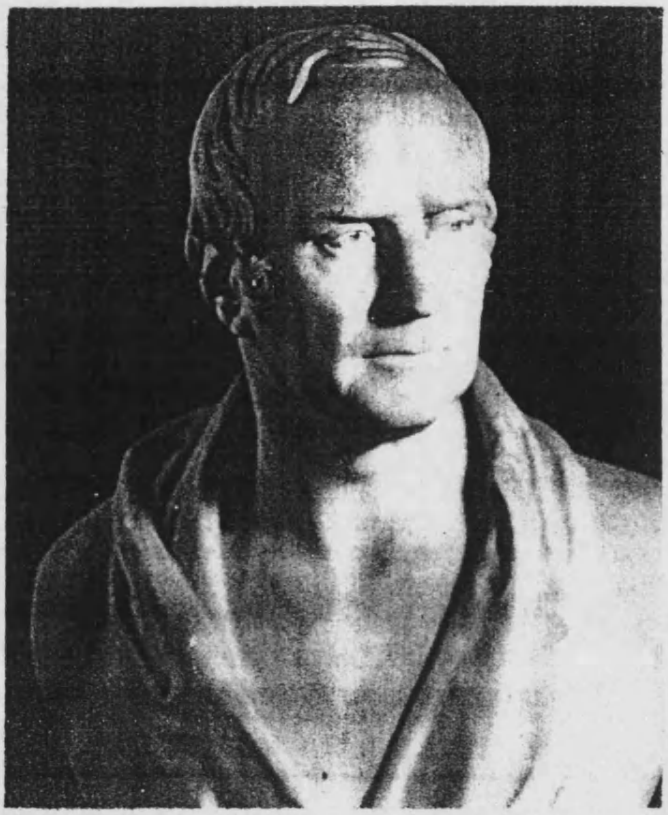
William Shaw's successor to the *Mark Lane Express*, he was one of the fiercest critic of the RAS. He criticized the RAS show locations (for example, the 1859 Warwick show for being too close to the capital); the shows themselves (for example, 'the downpour at Gloucester' in 1853, the 'dullness of Lewes' in 1852, and nothing 'so utterly cheerless' as Wolverhampton in 1871); the over-fat stock; and the way in which the Society failed to give a decisive lead during the cattle plague. One of the leading agricultural commentators of the day who actively took part in the discussion about premium system during the middle decades of the nineteenth century.

HANDLEY, Henry, M.P.

M.P. for Lincolnshire who wrote influential 'open letter' to Earl Spencer in support of the new agricultural institution (the RAS) in 1838. During the early part of 1838, Handley made efforts to obtain influential support from other Members of Parliament for the RAS. He was a member of the Journal Committee in 1839.

HOBHOUSE, Sir Benjamin (1757-1831)

Born 1757 the son of John Hobhouse, a merchant in Bristol. He was the elected M.P. for Betchingley, Surrey in 1797, for Grampound, Cornwall in 1802 and Hindon, Wiltshire from 1806 till 1818 when he withdrew from political life. He was made a



baronet in 1812. Hobhouse was President of the Bath and West Society from 1805 until 1817 when he resigned from the position owing to ill health. In the year of his election as the Society's President, he donated 100 guineas to the Society. The Society voted to invest the sum and use the income to offer a 'President's Premium' each year. After his resignation from the presidency of the Society, the premium was renamed the 'Hobhousean Premium'. He received a gold Bedfordean Medal in 1812 in recognition of his services to the Society. He died at Berkeley Square, Bristol, on 14 August 1831. In 1819, the Society commissioned Francis Chantrey to execute a marble bust of him. Chantrey was awarded a silver Bedfordean Medal for his work which was placed in the Society's rooms.

MADDEN, Samuel, D.D. (1686-1765)

See THREE [3.3] pp. 97-101.

MILES, William, M.P. (1797-1856)

Born 18 May 1757 in Bristol, he was educated at Eton and then Christchurch, Oxford. He entered Parliament in 1818 as M.P. for Chippenham and sat for this borough until 1820. Subsequently, he spent much of his time in Lincolnshire and Nottinghamshire. It was during his residence in Nottinghamshire that he started

farming. In 1831, he re-entered the House of Commons as the M.P. for New Romsey and in 1832, he contested unsuccessfully for East Somerset. He eventually returned for this division in 1834. In Gloucestershire, where his father had landed property, he occupied 230 acres of land. In 1832, he was a Vice-President of the Bath and West Society and one of the original members of the RAS. Miles was also a regular contributor to the *JRASE*, contributing the results of his own experience on the growth of different varieties of wheat, swedes and mangel-wurzel, and the effects that followed the application of different kinds of manures. In 1850, he was a strong supporter of Thomas Dyke Acland's proposal for the Bath and West to hold peripatetic shows. He was President of the RAS in 1855. On his death in 1856, the *Farmers Magazine* paid him the following tribute: 'Agriculture has seldom had a better friend, and the country gentleman none amongst their body who have more ably fulfilled the duties of their station.'

MORETON, Henry George Francis, 2nd Earl Ducie (1802-53)

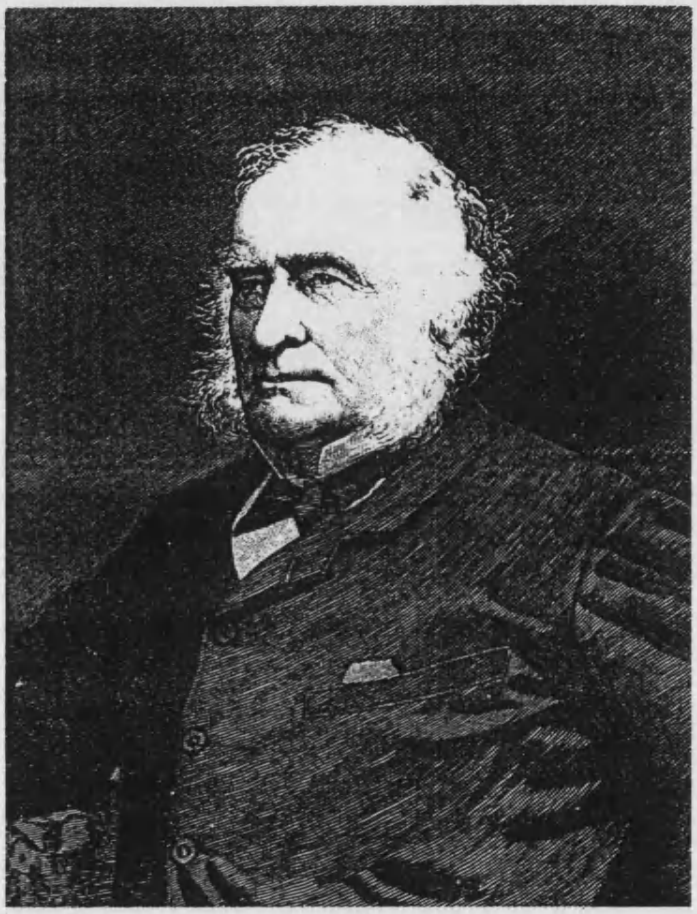
Landowner from Whitfield, Gloucestershire and staunch advocate of free trade who created something of a sensation when he delivered his speech on the platform of the Anti-Corn Law League in favour of Repeal in 1843. He declared that under free trade in wheat, not one acre of the Cotswolds would be thrown out of cultivation. He was M.P. for East Gloucestershire from 1832 till 1834 and succeeded his father in 1840. Ducie was President of the RAS from 1851 till 1852 when he took up the issue of over-fat stock. He formally proposed that something had to be done to arrest the evil of high-feeding for exhibition. As a result of his proposals, the RAS introduced the jury system for its stock exhibitions. However, he died in 1853 and much of the initiative for reform was lost.

MORTON, John (1780-1864)

Born 17 July 1781 at Ceres, Fifeshire. He moved to Dulverton, Somerset in 1810 where he stayed until he was appointed Earl Ducie's agent in 1818 on the Whitfield estates, a position that he remained in for forty years. Here he superintended Ducie's

'example farms' and established the 'Uley Agricultural Machine'. Morton was elected a Fellow of the Geological Society after the publication of *On the Nature and Property of Soils* (1838). He died on 26 July 1864.

MORTON, John Chalmers (1821-88)



Editor of the *Agricultural Gazette* from 1844-88 and leading commentator on agricultural affairs. Born 1 July 1821. His father, John, was Earl Ducie's agent on the Whitfield estates. Morton went to assist his father on the Whitfield 'example farm' in 1838 and shortly after joined the newly-formed RAS. Morton was a fierce critic of the premium system in the 1860s and contributed to the discussions about the over-fat stock and implements that won premiums at the agricultural shows. Nonetheless, he recognized that the gathering of farmers at these shows was an ideal occasion for the interchange of agricultural opinion. He was a leading contributor to the *JRASE* and *JRSA*. He was passed over as editor of the *JRASE* when H.S. Thompson left to enter Parliament in 1859. Instead, the Society appointed P.H. Frere, a relatively unknown Bursar of Downing College, Cambridge. Morton died on 3 May 1888 after forty-four years continuous editorship of the *Agricultural Gazette* since its inception in 1844.

PLOWMAN, Thomas Forder (1844-1919)

Born in Oxford in 1844, his father, Joseph, was a book-seller, publisher, journalist and writer. His father was also the University correspondent to the *Morning Post* and when he died, Thomas got the job. He added it to his existing duties as a librarian at the Bodleian library in Oxford. In 1867, at the age of twenty three, he became the Secretary of the Oxfordshire Agricultural Society. In 1877, he became the editor of *Jackson's Oxford Journal*. In 1888, he responded to an advertisement placed by the Bath and West Society for a Secretary. When Josiah Goodwin, the editor of the *JBWES* died in 1890, Plowman successfully applied for the editorship. He remained in active duty for the Society for thirty seven years until 1919. He was also active in local life in Bath. He was a member of the Council in Bath, graduating to Alderman and eventually Mayor. He was a Magistrate, a member of the Bath School Board, a member of the Bath Literary and Philosophical Society. He died in 1919.

PUSEY, Philip, M.P. (1799-1855)

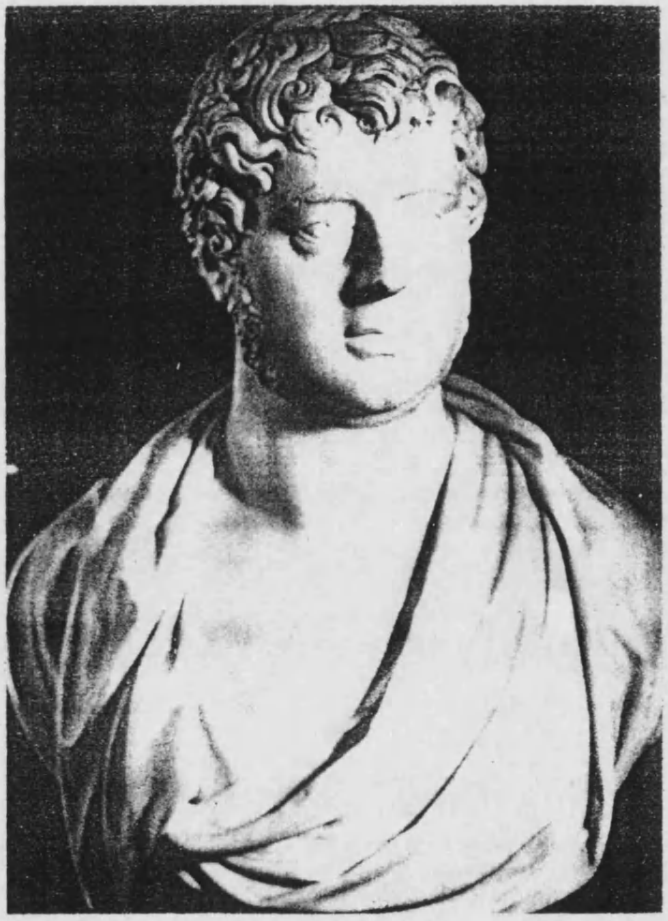
Born at Pusey, Berkshire on 25 June 1799 and on his father's death in 1828, he took over the family estate. He was an M.P. from 1830 till 1832 and Sir Robert Peel and Mr Gladstone were among his closest friends. He did not take part in Parliamentary discussions on the Corn Laws. He took a prominent part in the formation of the RAS. He was seconded the resolution moved by Earl Fitzwilliam at the preliminary

meeting that the Society's shows should be held in different regions of the country each year. He was in charge of the agricultural implements section at the 1851 Great Exhibition and his report on the McCormick reaper largely accounts for the great interest of the RAS in harvest mechanization in the years that followed. He was the Chairman of the Journal Committee between 1839 and 1854 and the *de facto* editor of the first fifteen volumes of the *JRASE*. Before 1838, Pusey had written for the *Morning Post and Quarterly Review*. It has been suggested that he was prompted by the national question of population increase and the local problems of rural distress in his Berkshire constituency to work so wholeheartedly for the Society. According to James Caird, Pusey was 'the leading agricultural writer of the day' and his 'readable and practical essays' were 'the embodiment of the Society's motto "Practice with Science" and he directed the journal with 'zealous ability'. On his own estate, he tried innumerable agricultural experiments and frequently arranged for implement trials. Pusey retired from his editorship of the *JRASE* in 1854. His retirement led to the editorship of the journal being one of the most controversial aspects of the Society's proceedings until 1869 when H.M. Jenkins was appointed. He was President of the RAS in 1854 and died in 1855. Sir Thomas Acland, one of Pusey's executors, in reply on behalf of the family to a resolution of sympathy from the RAS wrote that 'by a rare union of endowments he did much to win for agriculture a worthy place among the intelligent pursuits of the day.'

RACK, Edmund (1735-1787)

See TWO [2.4] pp. 64-5.

RUSSELL, Francis, 5th Duke of Bedford (1765-1802)



Born 1765 and succeeded his grandfather, the fourth Duke of Bedford, in 1771. His father had died from a fall from a horse earlier in 1767. In 1780, he entered Trinity College, Cambridge. He spent the greater part of 1784 and 1785 traveling on the Continent. He returned in August 1786 and took his seat in the House of Lords on 5 December 1787. He was nominated a member of the 'old' Board of Agriculture at the time of its inception in 1793 and the first President of the Smithfield Club on 17 December 1798. He established a model farm at Woburn, with 'every convenience that could be desired for the breeding of cattle and experiments in farming.' He himself made some valuable experiments on the respective merits of the various breeds of sheep, the results which were published in Arthur Young's *Annals of Agriculture* (1795). He also started the Woburn sheep-shearings - an annual exhibition that attracted many from the agricultural world. Ploughing and other competitions took place, wool and other products were sold, various exhibits were made and prizes given at these events that lasted for a week and concluded with banquets given by the Duke to his guests at Woburn. The Duke of Bedford was also

the President of the Bath and West Society from 1800 till his death in 1802 from an operation for strangulated hernia. In recognition of his services to the Society, the Bath and West created the 'Bedfordean Medal', a gold medal equivalent to the value of twenty guineas, that was offered in its premium lists for the greatest improvement in any agriculture-related subject. A statue of the Duke by Sir Richard Westmacott in 1809 stands in Russell Square: one hand rests on a plough, the other holds some ears of corn.

RUSSELL, John, 6th Duke of Bedford (1766-1839)

Born 1766 and entered the House of Commons as member for Tavistock in 1788. He sat for this constituency until 2 March 1802 when on the death of his unmarried elder brother, Francis, the fifth Duke of Bedford, he succeeded to the dukedom. On 12 February 1802, he was created a privy councillor and took office as lord-lieutenant of Ireland. He resigned with his colleagues on 19 April 1807. From this date, he took little part in political life and resided mainly at Woburn. Like his brother, he interested himself in agriculture and continued the famous 'Woburn sheep-shearings' for some years. John also filled his brother's place as President of both the Smithfield Club, from 1802 till 1816, and the Bath and West, from 1802 till 1805. He was both a Governor and Vice-President of the RAS in 1838. He died at Doune of Ruthie-Murchus, Perthshire on 20 October 1839.

SHAW, William (1797-1853)

First editor of the *Mark Lane Express and Agricultural Journal*, one of the most influential of the nineteenth century agricultural newspapers, and the *Farmers' Magazine*. Born 1797 in Bath, Shaw first came into public prominence in connection with his efforts towards the establishment of the RAS. He persistently called for some sort of central agricultural society and produced a plan for a non-political 'scientific' body that was to be styled the 'Royal Agricultural Society'. He did much of the preparatory work that led to the foundation of the RAS and was appointed it first Secretary (1838-39). He established a committee to consider the rotation of districts to be visited by the Society. The district scheme which his committee formulated

broke the country up into nine regions to be visited by the Society's shows in rotation each year. This scheme was kept in operation throughout the 1850s and 1860s until William Torr brought in new district boundaries thought to accord more with geological provinces than hitherto had been the case. Shaw was a great supporter of farmers' clubs and a frequent speaker at their meetings. The foundation of the London Farmers' Club in 1840 owed a lot to his efforts and he was its Honorary Secretary from 1840 till 1843. He played an important role in stressing the significance of raising the intellectual level of the general body of agriculturists and gave it a lot of attention in the agricultural press. His various financial ventures into insurance companies were unsuccessful and in 1852, he fled the country to escape bankruptcy. A year later, he died penniless in Australia.

SHIPLEY, William (1715-)

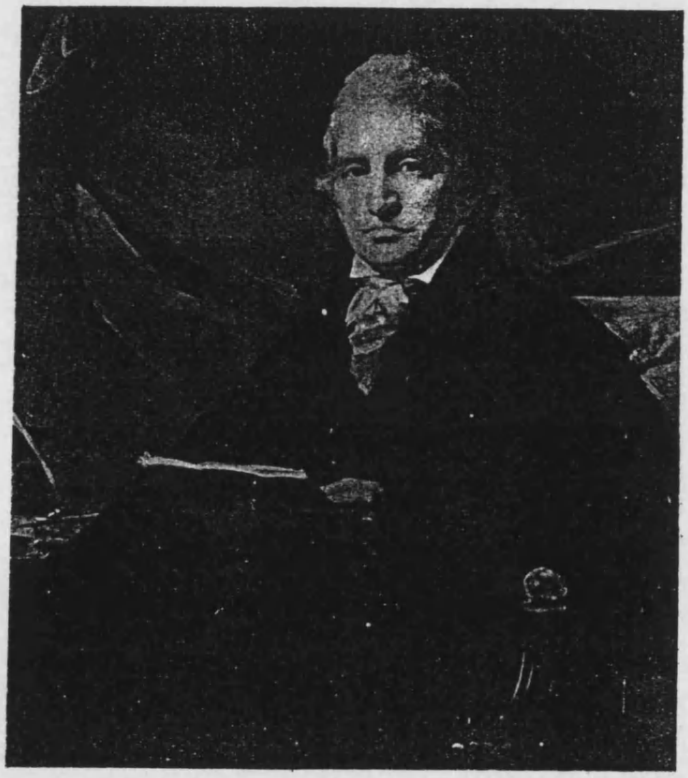
See TWO [2.1] pp. 76-84.

SIDNEY, Samuel (1813-83)

Agricultural writer born 6 February 1813 on Paradise Street, Birmingham. He was educated for the law and practised for a short time in Liverpool. However he turned to journalistic and literary work soon after. In 1850-1, he was an assistant commissioner for the Great Exhibition and assistant to the Crystal Palace Co. for some years later. In the late 1850s, he was the hunting correspondent of the *Illustrated London News*. He applied

for the post of Secretary of the RAS in 1859 but was turned down. Another unsuccessful candidate for the position was J.C. Morton. Sidney claimed that they were discriminated against because they were both 'professional writers connected with newspapers, not amateurs, and had not graduated from English Universities'. He became the first Secretary of the Islington Agricultural Hall Co. and the fiercest critic of the RAS and the premium system in the 1860s.

SINCLAIR, Sir John (1754-1835)



First President of the 'old' Board of Agriculture. Born 10 May 1754 at Thurso Castle, Caithness. In November 1774, he entered Lincoln's Inn and in 1782, he was called to the English bar even though he had read law with no intention of practising it. At the age of sixteen, he inherited his father's extensive estates at Caithness and at once began improvements, the chief of which was the construction of a road across the mountain of Ben Cheilt, hitherto supposed unpassable. For a boy of eighteen, this was 'a striking example of courage and energy; but tinged with a love of empty display, characteristic of all his achievements'. He later admitted that 'a road made so rapidly could not be durable'. In 1780, he became the M.P. for Caithness and in 1782, he obtained a grant of £15,000 towards the relief of a serious famine in the north of Scotland. As President of a special committee of the Highland Society, Sinclair investigated the comparative

merits of the wool of different breeds of sheep, and especially of the Shetland flocks. He inaugurated the British Wool Society at a grand sheep-shearing festival held on 1 July 1791 at Newhalls Inn, Queensferry. In 1793, he obtained a grant from Parliament and established the Board of Agriculture.

SPENCER, John Charles, 3rd Earl (1782-1845)

Born 30 May 1782 and succeeded to earldom in 1835. In 1825, while still Viscount Althorp, he filled the vacant Presidency of the Smithfield Club left by John, Duke of Bedford earlier in 1821 when the Club came near to dissolution. He managed to revive the Club and remained its President till his death. He was also an active member of the Society for the Diffusion of Useful Knowledge. He became a life member in 1829 and did much to keep it alive in the 1840s. The Society collapsed soon after his death. In 1837, he was one of the founders of the YAS and for some years, sponsored its premium list. On 11 December 1837, he pro-posed the formation a national agricultural institution at the Smithfield Club dinner. The RAS was formed in 1838 and Spencer was elected as its first President. He chose the Society's motto 'Practice with Science' and was a contributor to the *JRASE*. He became President of the RAS for a second time in 1844. His 'Wiseton' herd of short-horns which he began in 1818 with the purchase of the bull Regent and several cows at the famous Colling sale at Barmpton, ultimately became one of the largest and best in England. He died in 1845.

Earl Spencer has been described as 'the very model and type of English gentleman ardently desiring the good of his country, without the slightest personal ambition...high-minded, unaffected, sensible...a practical farmer...a plain and simple man.'

THOMPSON, Harry Stephen Meysey (1809-74)

Born 11 August 1809 at Newby Park, Yorkshire, was the eldest son of Richard John Thompson (1771-1853) of Kirby Hall, Yorkshire. He succeeded his father in 1853 and entered Parliament in 1859. Following the example of Arthur Young and accompanied by his friends Evelyn Denison (later Lord Ossington) and others, Thompson made a number of practical agricultural tours around the country. He was one of the founder members of the YAS in 1837. In fact, it was Thompson who first proposed the formation of the YAS that year at the age of twenty eight. He was also a founder member of the RAS a year later. He was a member of the RAS council from 1838 until 1858. After Philip Pusey's retirement from the editorship of the *JRASE* in 1854, Thompson ran the journal together with Chandos Wren Hoskyns and Thomas Dyke Acland. The other two withdrew in 1858 over editorial disagreements and Thompson was left in charge. He maintained a rigorous control over the journal between 1855 and 1870 and his conservative outlook was openly attacked by the agricultural press. They complained that his attitude was obstructive because he refused to publish articles on topics such as leases, tenant right and the preservation of game. As far as Thompson was concerned, the Society was established for the promotion of agricultural improvement in crops and stock and so, these 'political' subjects were 'forbidden'. He died in 1874.

YOUNG, Arthur (1741-1820)

Prolific agricultural writer. Born 11 September 1741 at Bardfield, Suffolk. Young was an active member of the Society of Arts in the 1770s and chairman of its agricultural committee. In 1779, he won a premium from the Society for his work on the 'clustered potato'. He constantly urged the Society to publish its own transactions which it eventually did in 1783. In 1784, he commenced his *Annals*

of Agriculture and forty six volumes appeared continuously until 1809. Among its contributors were George III (under the name of Ralph Robinson, one of the shepherds at Windsor), Jeremy Bentham, Thomas Coke of Holkham, Joseph Priestley and Lord Townshend. Young was an Honorary member of the Bath and West and the Secretary of the 'old' Board of Agriculture from 1793 until 1820. In 1794, he founded the London Farmers' Club. He was also the Secretary and Treasurer of the Smithfield Club from its inception in 1799 until 1806. In 1811, Young was operated on for a cataract but did not recover his sight after the operation. He died of the stone at Sackville Street, London, his official residence in his capacity as Secretary of the Board of Agriculture, on 20 April 1820.

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